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NOTE BY THE SECRETARY-GENERAL

The Secretary-General has the honour to transmit to the members of the Security Council the attached communication which he has received from the President of the Council of the International Civil Aviation Organization (ICAO).

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Annex

Letter dated 28 June 1996 from the President of the Council of the International Civil Aviation Organization addressed to the Secretary-General

I wish to refer to the statement by the President of the Security Council on 27 February 1996 in which the Security Council requested that the International Civil Aviation Organization investigate the incident entitled "Shooting down of two civil aircraft on 24 February 1996" in its entirety and report its findings to the Security Council as soon as possible.

Pursuant to the request of the Security Council, I have the honour to transmit to you the report (C-WP/10441) and information paper No. 1, presented to the Council of the International Civil Aviation Organization by the ICAO Secretary General entitled "Report of the investigation regarding the shooting down of two U.S.-registered private civil aircraft by Cuban military aircraft on 24 February 1996".

The Council of the International Civil Aviation Organization considered this report during the 17th, 18th, 19th and 20th meetings of its 148th session, on 26 and 27 June 1996. On 27 June 1996, the Council of ICAO adopted a resolution, which I have the honour to also transmit to you. Following consideration of the report by the Council, the "Restricted" designation has since been removed.

(Signed) Assad KOTAITE

Enclosure 1

Resolution adopted by the Council of the International Civil Aviation Organization at the twentieth meeting of its 148th session on 27 June 1996

The Council

Recalling that two U.S.-registered private civil aircraft were destroyed on 24 February 1996 by Cuban military aircraft,

Having considered the request of the Government of the United States for an investigation concerning this incident,

Having considered the request of the Government of Cuba inviting the Organization to carry out an exhaustive investigation,

Having considered the request of the United Nations Security Council in a Presidential Statement of 27 February 1996 that the International Civil Aviation Organization investigate this incident in its entirety,

Recalling the resolution adopted by this Council on 6 March 1996 which strongly deplored the shootdown of these two civil aircraft, and which directed the Secretary General to initiate an immediate investigation of this incident in its entirety and to report on that investigation within 60 days of the adoption of this Resolution, for consideration during its 148th session,

Expressing appreciation for the full cooperation of the authorities of the States concerned with the ICAO investigation team in this regard,

Having considered the report of the Secretary General on the investigation on 26 and 27 June 1996 during its 148th session,

Recalling the principle that every State has complete and exclusive sovereignty over the airspace above its territory, and that the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto,

Recalling also that States, in the exercise of their authority under Articles 1 and 2 of the Convention on International Civil Aviation, shall be guided by the principles, rules, standards and recommended practices laid down in the Convention and its Annexes, including the rules relating to the interception of civil aircraft, and the principle, recognized under customary international law, concerning the non-use of weapons against such aircraft in flight,

1. Notes the report of the investigation instituted by the Secretary General;

2. Reaffirms the principle that States must refrain from the use of weapons against civil aircraft in flight and that, when intercepting civil aircraft, the lives of persons on board and the safety of the aircraft must not be endangered;

3. Reaffirms the principle that each Contracting State shall take appropriate measures to prohibit the deliberate use of any civil aircraft registered in that State or operated by an operator who has his principal place of business or permanent residence in that State for any purpose inconsistent with the aims of the Convention on International Civil Aviation;

4. Reaffirms its condemnation of the use of weapons against civil aircraft in flight as being incompatible with elementary considerations of humanity, the rules of customary international law as codified in Article 3 bis of the Convention on International Civil Aviation, and the Standards and Recommended Practices set out in the Annexes to the Convention;

5. Expresses its deep regret over the loss of four lives and its deep sympathy and condolences to the bereaved families of the victims of this tragic event;

6. Resolves to transmit the Secretary General's report to the United Nations Security Council;

7. Instructs the Air Navigation Commission to study the safety-related aspects of the report of the investigation with regard to the adequacy of standards and recommended practices and other rules relating to interception of civil aircraft, and to report to the 150th Session of the Council on any measures it considers necessary so as to prevent the recurrence of a similar tragic event;

8. Requests the President of the Council to report on the adoption of this resolution to all ICAO Contracting States as soon as possible, and to report on this resolution to the next ordinary Session of the Assembly in 1998 for any action the Assembly may wish to take;

9. Requests all Contracting States to report at any time to the Council any infraction of the above-mentioned rules contained in the Convention on International Civil Aviation;

10. Urges all States which have not yet done so to ratify as soon as possible Article 3 bis of the Convention on International Civil Aviation, and to comply with all the provisions of this Article pending its entry into force.

Enclosure 2

WORKING PAPER

INTERNATIONAL CIVIL AVIATION ORGANIZATION

C-WP/10441*
RESTRICTED
20/6/96

COUNCIL – 148TH SESSION

Subject No. 14: Subjects Relating to Air Navigation

REPORT OF THE INVESTIGATION REGARDING THE SHOOTING DOWN OF TWO U.S.-REGISTERED PRIVATE CIVIL AIRCRAFT BY CUBAN MILITARY AIRCRAFT ON 24 FEBRUARY 1996

(Presented by the Secretary General)

SUMMARY

On 6 March 1996, the Council adopted a Resolution directing the Secretary General to initiate an investigation of the incident in its entirety to determine all relevant facts and technical aspects. The Appendix to this paper contains the report of the ICAO fact-finding investigation.

REFERENCES

*C-WP/10395
*C-WP/10392 (Revised)
*C-WP/10391
C-WP/10390 (Revised)
C-WP/10389
*C-WP/10388
*C-DEC 147/10
*C-DEC 147/9
*C-DEC 147/8
C-DEC 147/6
C-DEC 147/4
Memorandum PRES AK/502
dated 29 February 1996
(Corrigendum to Arabic only)
C-WP/10412 (Restricted)
C-DEC 148/1
Memorandum PRES AK/501
dated 28 February 1996
Memorandum PRES AK/500
dated 28 February 1996
(Corrigendum to E/F/R)
Memorandum PRES AK/499
dated 27 February 1996
Memorandum PRES AK/498
dated 27 February 1996
Memorandum PRES AK/497
dated 26 February 1996
Memorandum SG 1462/96
dated 11 March 1996

* Principal references

(102 pages)
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* Incorporating corrigendum No. 1.

1. BACKGROUND

1.1 The United Nations Security Council, in a Presidential Statement of 27 February 1996, requested ICAO to investigate in its entirety, "the shooting down by the Cuban air force of two civil aircraft on 24 February 1996" and to report its findings to the Security Council as soon as possible.

1.2 On 6 March 1996, the Council of ICAO, at the 10th meeting of its 147th Session, adopted a Resolution (a copy of the Resolution is reproduced as Appendix A) concerning the shooting-down of two U.S.-registered private civil aircraft by Cuban military aircraft on 24 February 1996. The Council consideration was based on the request of the Security Council; the request of the Government of the United States for an investigation concerning this incident; and the request of the Government of Cuba inviting the Organization to carry out an exhaustive investigation. The Resolution, *inter alia*, directed the Secretary General to immediately initiate an investigation of the incident in its entirety to determine all relevant facts and technical aspects and to report to the Council within 60 days of the adoption of the Resolution, for consideration during its 148th Session. The Council also resolved that it "will immediately transmit the Secretary General's report with comments, if any, to the United Nations Security Council;".

1.3 On 6 May 1996, the Council considered an interim report on the progress of the investigation (C-WP/10412) and noted that the Secretary General envisaged completion of the final report by early June 1996, for consideration by Council during its 148th Session. Appendix B to this paper contains the report of the ICAO fact-finding investigation.

2. ACTION BY THE COUNCIL

2.1 The Council is invited to:

(a) to consider the report of the ICAO fact-finding investigation regarding the shooting down of two U.S.-registered private civil aircraft by Cuban military aircraft on 24 February 1996; and

(b) to instruct the Secretary General to transmit the report to the United Nations Security Council together with comments of the Council, if any, related to this matter.

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Appendix A

RESOLUTION ADOPTED BY THE COUNCIL OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION AT THE TENTH MEETING OF ITS 147TH SESSION ON 6 MARCH 1996

THE COUNCIL

HAVING CONSIDERED that two US-registered private civil aircraft were destroyed on 24 February 1996 by Cuban military aircraft;

HAVING CONSIDERED the request of the Government of the United States for an investigation concerning this incident;

HAVING CONSIDERED the request of the Government of Cuba inviting the Organization to carry-out an exhaustive investigation;

HAVING CONSIDERED the request of the United Nations Security Council in a Presidential Statement of 27 February 1996 that the International Civil Aviation Organization investigate this incident in its entirety;

RECOGNIZING that the United Nations Security Council in a Presidential Statement of 27 February 1996, has strongly deplored the shooting down by the Cuban air force of two civil aircraft on 24 February 1996;

STRONGLY DEPLORING the shooting down by the Cuban air force of two civil aircraft on 24 February 1996, which has resulted in the death of four persons;

EXPRESSING its deepest sympathy with the families bereaved in this tragic incident;

URGING the parties concerned to assist in the prompt recovery, if possible, of the bodies and personal effects of the victims;

RECOGNIZING that the use of weapons against civil aircraft in flight is incompatible with elementary considerations of humanity and the norms governing international behavior and with the rules and Standards and Recommended Practices enshrined in the Chicago Convention and its Annexes;

REAFFIRMING the principle that States must refrain from the use of weapons against civil aircraft in flight and that, when intercepting civil aircraft, the lives of persons on board and the safety of the aircraft must not be endangered;

1. *DIRECTS* the Secretary General to immediately initiate an investigation of the incident in its entirety to determine all relevant facts and technical aspects in accordance with the United Nations Security Council Presidential Statement and to report to the ICAO Council within 60 days of the adoption of this Resolution, for consideration during its 148th Session;

2. *CALLS UPON* the parties concerned to cooperate fully in the investigation;

3. *RESOLVES* that the Council will immediately transmit the Secretary General's report with comments, if any, to the United Nations Security Council;

4. *REQUESTS* the President of the Council to report on the implementation of this Resolution to all ICAO Contracting States as soon as possible, and to the next ordinary Session of the Assembly in 1998 for any action the Assembly may wish to take;

5. *URGES* all States which have not yet done so to ratify as soon as possible Article 3 *bis* of the *Convention on International Civil Aviation*.

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Appendix B

THE SHOOTING DOWN OF TWO U.S.-REGISTERED PRIVATE CIVIL AIRCRAFT BY CUBAN MILITARY AIRCRAFT ON 24 FEBRUARY 1996

REPORT OF THE ICAO FACT-FINDING INVESTIGATION

JUNE 1996

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Note.- Unless stated otherwise, all dates and times in this report are local time in Havana, Cuba, and local time in Miami, Florida, United States, which is Eastern Standard Time (EST). Local time in both Havana and Miami is Co-ordinated Universal Time (UTC) -5 hours.

INTRODUCTION

1. The Council of ICAO, on 6 March 1996, at the tenth meeting of its 147th Session, adopted a Resolution concerning the shooting down of two United States registered private civil aircraft by Cuban military aircraft on 24 February 1996. The Council consideration was based on the request of the United Nations Security Council, in a Presidential Statement of 27 February 1996, that the International Civil Aviation Organization investigate this incident in its entirety; the request of the Government of the United States for an investigation concerning this incident; and the request of the Government of Cuba inviting the Organization to carry out an exhaustive investigation. The Resolution, *inter alia*, directed the Secretary General to immediately initiate an investigation of the incident in its entirety to determine all relevant facts and technical aspects. The Council also called upon the parties concerned to co-operate fully in the investigation.

2. Immediately following the adoption of the Resolution by the Council, an investigation team was designated. It comprised three staff members and a consultant, on a full-time basis. Other officers of the Secretariat assisted as required.

3. On 19 March 1996, letters from the Secretary General of ICAO were sent to the Governments of the United States and Cuba, requesting their co-operation in providing all relevant information as well as seeking their agreement to visits by the investigating team for this purpose. The Secretary General notified each of the two States of specific areas that would be of interest to the team. Both States agreed to the visits of the team.

4. The ICAO team visited Cuba from 24 to 31 March 1996. A series of meetings was held at the Civil Aviation Institute of Cuba. Officials of the Civil Aviation Institute, Ministry of Foreign Affairs, the National Assembly, and the Anti-Aircraft Defence Forces were in attendance. The team also visited the Havana Area Control Centre (ACC) and the civil/military co-ordination unit (Joint National Centre for Flight Planning).

5. The following were made available to the ICAO team by the authorities in Cuba: interviews with and statements by the civil and military personnel involved; interviews with and statements by witnesses; communication recordings and transcripts; details of the military interceptor aircraft and armament; all relevant Air Traffic Control (ATC) records, NOTAMs[1] on the activation of the danger areas north of Cuba, and details on civil/military co-ordination; interception procedures; civil and military radar plots, charts and data; details of the search and rescue effort; weather forecast and weather reports for the area north of Cuba for 24 February 1996; and details related to incursions into Cuban airspace since 1994.

6. The ICAO team visited Washington, D.C. from 2 to 4 April 1996 for meetings at the offices of the National Transportation Safety Board (NTSB) and the Federal Aviation Administration (FAA). The meetings were attended by officials of these two agencies, as well as by officials from the Department of State, Department of Defense and the United States Coast Guard.

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[1] Notices containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

7. The team visited Miami from 14 to 19 April 1996. It visited and held meetings at the NTSB Miami office, Miami Air Route Traffic Control Center (ARTCC), Miami International Aerodrome Control Tower (TWR), Miami Automated International Flight Service Station (AIFSS), Opa Locka TWR, Miami Flight Standards District Office (FSDO) of the FAA, the offices of the Federal Bureau of Investigation (FBI) in Miami, the offices of the United States Coast Guard in Miami, the hangar facilities of the Brothers to the Rescue at Opa Locka Airport used by the three aircraft involved, Husta International Aviation at Opa Locka Airport, the Norwegian cruise ship *Majesty of the Seas*, and television station NBC Channel 6 in Miami.

8. The following were made available to the ICAO team by the authorities in the United States: interviews with the pilot and the other occupants of the aircraft which returned to Opa Locka Airport, details of previous flights in or near Cuban airspace by the Brothers to the Rescue, details of their aircraft and operations; details of observations and actions by the United States Coast Guard and Air Force; details of surface vessels in the area, their records and reports; details of the three Cessna 337 aircraft concerned, details of the crew of the three aircraft, including their licences and experience; all relevant ATC records, NOTAMs on activation of danger areas north of Cuba, flight plans, distribution of flight plans, radar information and communication recordings; radar data from the United States South East Air Defense (SEAD) sector of the North American Air Defense (NORAD) facilities in Florida; details of the search and rescue effort; weather forecast and weather reports for the Florida Straits area for 24 February 1996; details related to the use of Guantánamo Bay Naval Station by civil aircraft; and actions and NOTAMs related to the prevention of incursions into Cuban airspace.

9. Further meetings and discussions with officials from FAA and NTSB took place at ICAO in Montreal from 2 to 3 May 1996 regarding: details of observations and actions by the United States Customs related to the shoot-down, including radar data from the Customs Domestic Air Interdiction Co-ordination Center (DAICC); radar data related to the shoot-down from the Caribbean Regional Operations Center (CARIBROC) facility in southern Florida; viewing of recorded radar data related to the shoot-down from the Miami ARTCC facilities and the SEAD facilities in Florida; radar track of a P-3 Orion aircraft just north of the 24N parallel between 14:45 and 15:15 hours on 24 February 1996; and information on the status of enforcement actions by FAA related to incursions into Cuban airspace prior to 24 February 1996.

10. On 6 and 7 May 1996 meetings and discussions took place at ICAO in Montreal with officials from FAA, NTSB, and the United States Air Force regarding recorded radar data related to the shoot-down from the SEAD facilities in Florida, and the radar track of the P-3 Orion aircraft. On 9 May 1996 the ICAO team listened to a recording of the communications between the Cuban military interceptor aircraft and their ground control, as provided by the United States. The cassette containing the recording was not handed over; however, a transcript in Spanish and an English translation were made available to the ICAO team.

11. Additional information was requested, and was provided on 10 and 23 May 1996 by the authorities in Cuba regarding the flight data recorders (FDR) installed on the military interceptor aircraft and the communication between the Cuban military interceptor aircraft and their ground control. The original tape of the Cuban recording was handed over to the ICAO team on 23 May 1996.

12. Additional information was requested, and was provided on 21 May 1996 by the authorities in the United States regarding the mission of the P-3 Orion aircraft, and radar data from Naval Air Station at Key West, CARIBROC and NORAD's SEAD sector.

13. On 3 and 4 June 1996 the ICAO team listened to the original tape of the recording by sources of the United States of the communication between the Cuban military interceptor aircraft and their ground control.

14. The information, data, material and charts provided by the authorities in Cuba and in the United States were reviewed and analyzed. The report was finalized on 19 June 1996.

1. FACTUAL INFORMATION

1.1 History of the flights

1.1.1 Pilots and supporters of the Brothers to the Rescue assembled at the hangar at Opa Locka Airport in the morning of 24 February 1996. At 09:12 hours the pilot of the Cessna 337C, N2456S, who was chief of flight operations in the Brothers to the Rescue organization, commenced filing Visual Flight Rules (VFR) flight plans with the Miami Automated International Flight Service Station (AIFSS). These flight plans were for six aircraft for a "rafter rescue flight" with a departure time of 10:15 hours. The aircraft and their registrations were: Cessna T337H, N2506; Cessna 337C, N2456S; Cessna 337B, N5485S; Cessna 337G, N108LS; Cessna 337B, N2329S; and Cessna 310J, N312MX. The routing filed was from Opa Locka Airport to 24 00N 080 25W; thence 23 30N 080 25W; 23 30N 082 45W; 24 00N 082 45W; and return to Opa Locka Airport. This routing covered flight in both Miami and Havana Flight Information Regions (FIRs). Further details were: two persons on board each aircraft; speed 120 kt at an altitude of 500 ft; estimated time en route five hours; and endurance six hours. The safety equipment carried by each aircraft was two yellow life jackets and a four-to-six person yellow life raft. The planned route would cross MUD-8, MUD-9 and MUD-14 danger areas within Havana FIR. These danger areas had been notified as active from 08:00 to 18:30 hours on 24 February 1996 by NOTAMs. Miami AIFSS verified that the chief of flight operations of the Brothers to the Rescue had checked the applicable NOTAMs. Transponder codes were assigned: N2506, 1222; N2456S, 1223; N5485S, 1224; N108LS, 1225; N2329S, 1226; and N312MX, 1227. The filing of the VFR flight plans for the six aircraft was completed by 09:29 hours. The flight plans were transmitted to Miami ARTCC and Havana ACC.

1.1.2 Owing to other commitments by some of the pilots of the Brothers to the Rescue, the intended flight did not depart at 10:15 hours as planned. The pilots returned to the hangar after 11:00 hours and agreed to have lunch before commencing the flight.

1.1.3 According to the authorities in Cuba the air defence radar detected three unidentified aircraft south of the 24N parallel, the outer boundary of the Cuban air defence identification zone (ADIZ), in the Havana FIR at 10:12 hours. These aircraft did not establish communication with Havana ACC, nor were transponder responses detected. They flew at an altitude of 500 to 1 500 m, and at a speed of 200 to 300 km/h. Between 10:16 and 10:50 hours the Cuban air defence radar showed aircraft on three occasions within the 12 NM territorial limit parallel to the Cuban coast between Havana and Varadero. At 10:34 hours Cuban Anti-Aircraft Defence interceptor aircraft took off on a patrol mission to persuade these aircraft to withdraw. These unidentified aircraft retired to the north at 11:17 hours in response to the military interceptor aircraft patrol, which was ordered to return to base at 11:30 hours.

1.1.4 At 10:40 hours Havana ACC queried Miami ARTCC on the presence of unidentified aircraft, showing no transponder responses, south of the 24N parallel and within the MUD-9 danger area. Miami ARTCC replied eight minutes later:

> "We checked with the Coast Guard and we checked with everyone that we know and no one knows of any aircraft that they own down there."

1.1.5 At 11:47 hours the Brothers to the Rescue amended three flight plans and allowed the remaining three to expire. A new departure time of 12:30 hours was given for N2506, N2456S and

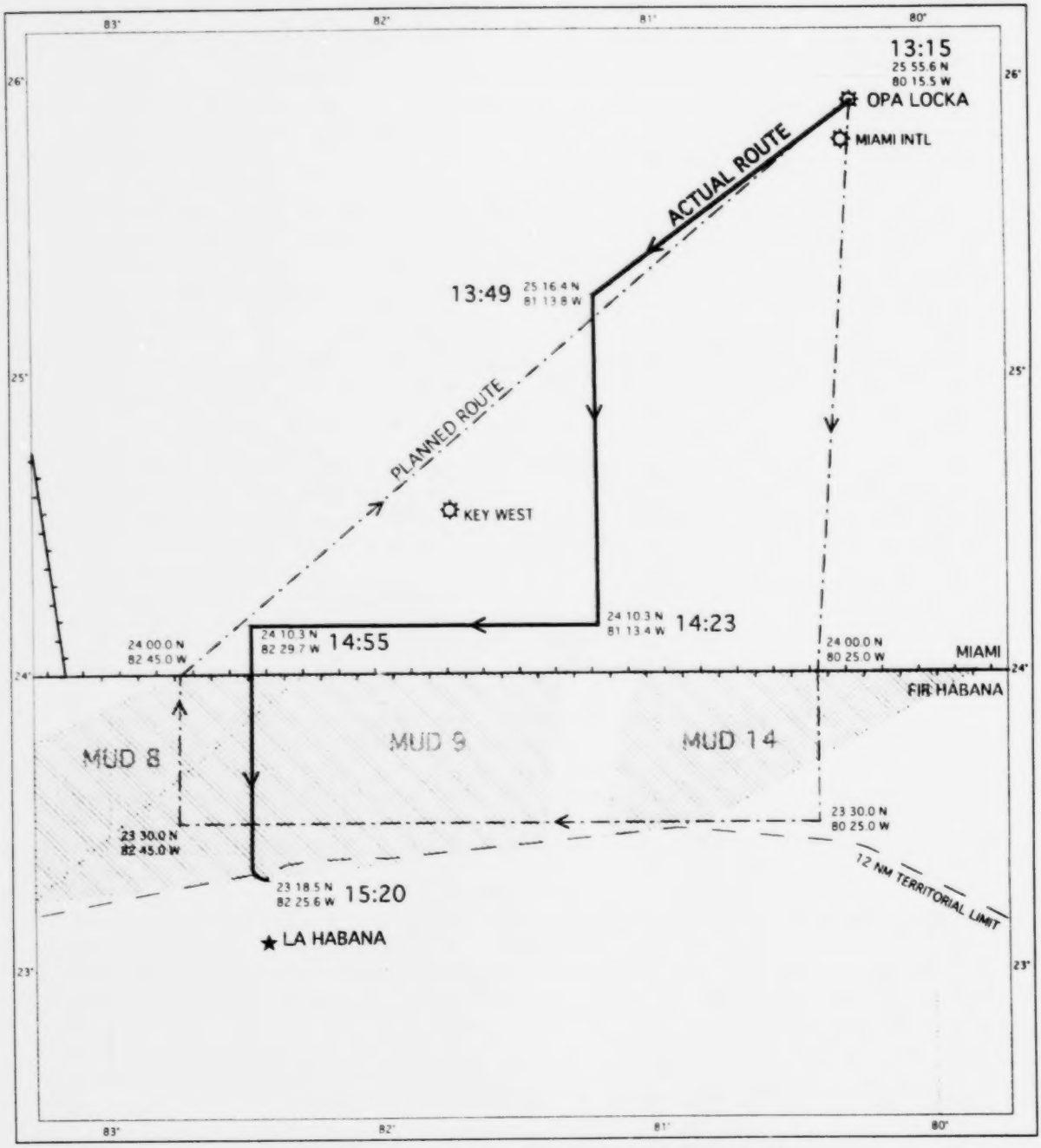


Chart 1 - Planned and actual routes of the three Cessna aircraft

N5485S. Additionally, the number of persons on board N2506 was revised to four, with four life jackets, whilst three orange smoke generators were added to the equipment carried by N5485S. The routing given in the revised flight plans was not changed. These three revised flight plans were transmitted to Miami ARTCC and Havana ACC.

1.1.6 According to the authorities in the United States, their radar recorded Cuban military aircraft activity north of Havana between 12:15 and 12:45 hours. According to the authorities in Cuba, there was no such activity at that time.

1.1.7 At 13:01 hours the three Cessna 337 aircraft (N2506, N2456S and N5485S) taxied from the Brothers to the Rescue hangar for take-off. At 13:07 hours Opa Locka TWR reported to Miami ARTCC, in response to an earlier request for information on Brothers to the Rescue activity, that these three Brothers to the Rescue aircraft had taxied out for departure. The three aircraft departed runway 09L westbound at 13:11, 13:12 and 13:13 hours. At 13:14 hours Opa Locka TWR was asked by Miami ARTCC if any of the Brothers to the Rescue aircraft were airborne. Opa Locka TWR responded that the three Brothers to the Rescue aircraft had departed and were at that time westbound, just north of Opa Locka. Opa Locka TWR was requested to inform Miami ARTCC if any more Brothers to the Rescue aircraft were to depart.

1.1.8 Miami AIFSS (call sign Miami Radio) was contacted by each of the three Cessna aircraft after take-off, to activate their VFR flight plans. Activation of the flight plans was completed by 13:24 hours. Miami AIFSS transmitted departure messages for N5485S and N2506 to Miami ARTCC and Havana ACC. No departure message for N2456S was sent due to an operator error.

1.1.9 The three Cessna aircraft had arranged to be in contact with each other on VHF frequency 122.75 MHz. Routine arrangements had been made for the Brothers to the Rescue Opa Locka base to monitor the flight using VHF radio with a repeater or HF radio. The internal call signs of the three aircraft were: Seagull One (N2506), Seagull Charlie (N2456S) and Seagull Mike (N5485S).

1.1.10 The three Cessna aircraft did not follow the route given in the VFR flight plans. As recorded by United States air defence radar, the three aircraft proceeded initially west, then southwest reaching 25 16.4N 081 13.8W at 13:49 hours, then south to 24 10.3N 081 13.4W, and turning at 14:23 hours to the west along the 24 10N parallel. The aircraft were reported to have maintained visual contact with each other. At 14:50 hours the three Cessna aircraft passed at position 24 09N 082 17W an opposite direction United States Navy P-3 Orion, which was at an altitude of approximately 900 ft.

1.1.11 At 14:39 hours Cuban air defence radar detected aircraft north of the 24N parallel. The aircraft exhibited transponder codes normally allocated to VFR flights. Two military interceptor aircraft at San Antonio de los Baños air base were brought to immediate readiness at 14:43 hours. The interceptors were armed with air-to-air, heat seeking missiles and cannon. These aircraft, a two seat MiG-29 UB and a MiG-23 ML took off at 14:55 hours to patrol 15 to 20 km north of the coast at altitudes between 200 and 500 m.

1.1.12 At 14:55 hours the three Cessna aircraft were recorded by United States defence radar at position 24 10N 082 30W, when they turned south following approximately 082 30W.

1.1.13 Cuban air defence radar reported aircraft 12 NM south of the 24N parallel at 15:00 hours. The radar record showed one aircraft (N2456S) in position 23 48N 082 02W and two other aircraft crossing the 24N parallel at 082 20W (N5485S) and 082 24W (N2506), at approximately 15:00 hours.

1.1.14 The three aircraft called Havana ACC on 133.7 MHz, prior to crossing the 24N parallel into the Havana FIR. N5485S called Havana at 14:56 hours. After establishing contact the following message was passed to Havana (in Spanish):

> "November five four eight five good morning we are crossing parallel twenty four ... at this moment and will remain in this area for approximately five hours."

When asked for its transponder code, N5485S replied with 1224, and when asked for the area of operation, N5485S replied:

> "Well that information is in our flight plan." (Translation from Spanish)

1.1.15 N2456S called Havana ACC at 14:57 hours, gave its transponder code 1223 and indicated crossing the 24N parallel in five minutes.

1.1.16 After N2456S, N2506 also called Havana ACC at 14:57 hours and transmitted the following message:

> "Good afternoon Havana Centre. Greetings from November two five zero six. Please we should be crossing parallel twenty four in about five minutes and staying in your area for about three to four hours transponder code one two two two, at five hundred feet or more." (Translation from Spanish)

After acknowledgement by Havana ACC, N2506 proceeded:

> "Thanks ... for your information, Havana Centre, we're today on a flight plan to the north of Havana, so we will be in your area and in contact with you. Brothers to the Rescue and myself, president of the organization, José Basulto, send you warm greetings." (Translation from Spanish)

Havana ACC replied:

> "Roger. Sir, we inform you that the area north of Havana is activated; you are taking a risk by flying south of twenty four." (Translation from Spanish)

N2506 responded at 14:58 hours:

> "We know that we are in danger each time that we fly into the area south of twenty four, but we are ready to do so as free Cubans." (Translation from Spanish)

Havana ACC acknowledged the transmission.

1.1.17 According to the pilot of N2506, the three aircraft continued south following approximately 082 30W. The intent was for N2456S to turn east on 23 35N, for N5485S to turn east on 23 30N, and for N2506 to turn east on 23 25N. The easterly track was to be maintained to the Cay Sal Bank between 080 25W and 080 00W, from where they intended to return to Opa Locka.

1.1.18 There was also maritime traffic in the sea area north of Havana. At 15:00 hours the Royal Caribbean Cruise Lines ship *Majesty of the Seas* was in position 23 29.0N 082 40.8W, heading

069°T, at a speed of 14 kt, towards the port of Miami. The *Majesty of the Seas* had an automatic system which recorded time, position, speed, heading, relative wind and depth every 5 minutes from its Global Positioning System (GPS) and other sensors.

1.1.19 Another vessel, a tuna fishing boat, the *Tri-Liner*, was east of the *Majesty of the Seas*. The bridge watchkeeping staff of the cruise ship were paying particular attention to the relative position of the fishing boat since it was observed to be on a collision course with the cruise ship. The *Tri-Liner* was maintaining a northerly course, at 7 to 8 kt, towards Key West. The *Tri-Liner* was equipped with a GPS for navigation but the crew kept no running log of position.

1.1.20 A sailing boat was also in the area. This boat was proceeding from 23 05.4N 082 30.6W, which it had passed at approximately 11:00 hours, maintaining a track of 044°T towards 23 44.0N 081 49.5W, at a speed of 6 kt, under the control of an autopilot coupled to a GPS. The yachtsman did not keep a running log of position.

1.1.21 Between 14:55 and 15:11 hours the Cuban military interceptors were vectored in response to various air defence radar contacts, one of which they reported to be a large ship. At 15:11 hours vectors were given to a contact 30 km north of Baracoa and the MiG-23 was ordered to activate its airborne radar. A further air defence radar contact was reported 25 km north of Santa Fe. The MiG-29 reported visual contact with an aircraft at 15:17 hours. The MiG-23 then moved west of Baracoa to stay clear of the area, and took no further active part in the interception.

1.1.22 The United States air defence radar record showed that N5485S reached its southernmost position of 23 25.1N 082 29.7W at 15:17 hours. The Cuban radar record showed that N5485S entered Cuban territorial airspace at 15:18 hours at position 23 21N 082 25W.

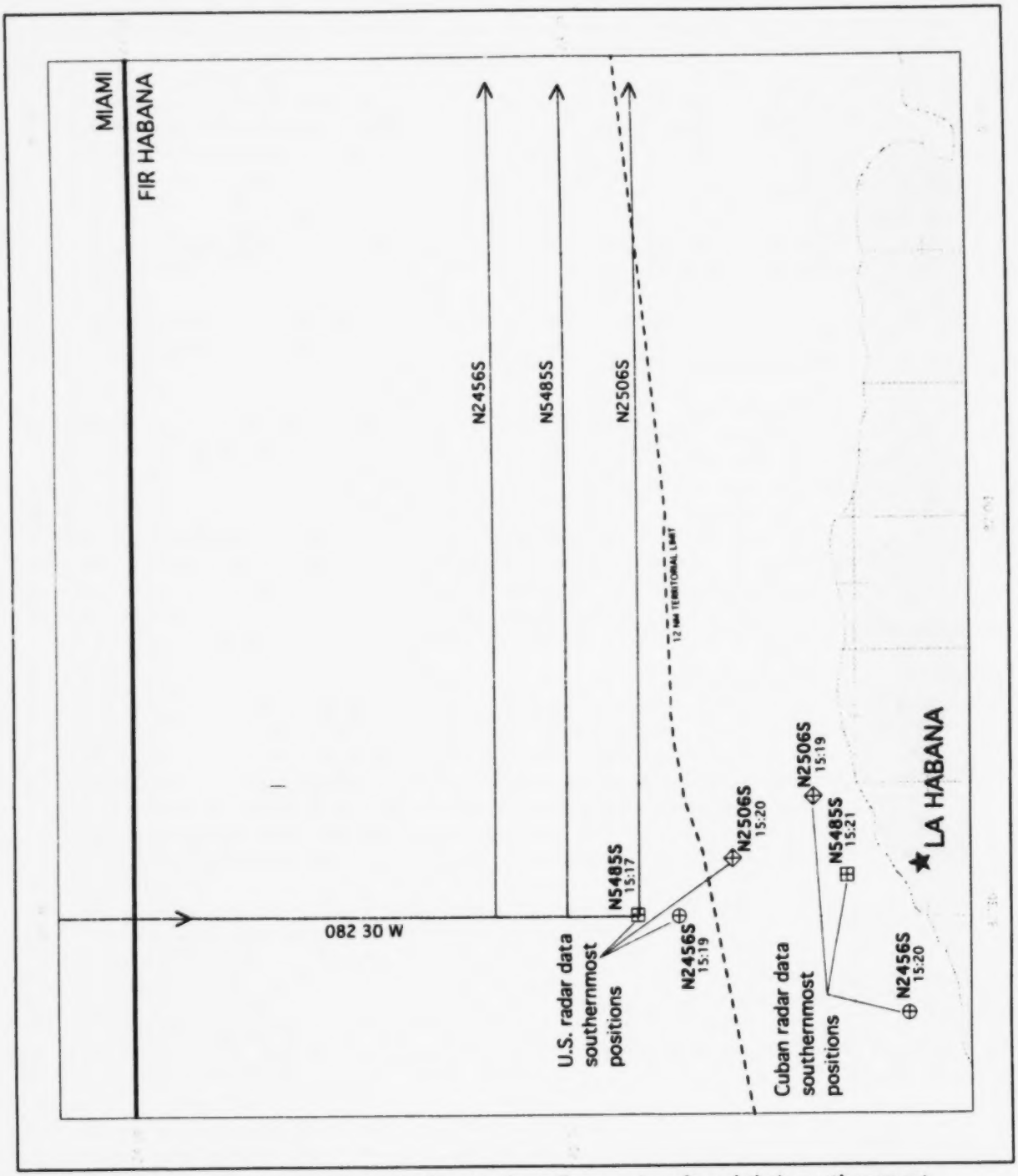
1.1.23 At 15:18 hours the pilot of N5485S (Seagull Mike) informed the other Cessna aircraft of his position:

> "Mike is twenty three twenty eight, eighty two twenty nine do you want me to wait for you here?"

1.1.24 From 15:17 to 15:21 hours the MiG-29 manoeuvred under the instructions of the ground control and based on its own visual sighting of the aircraft (N2456S). The ground control requested identification of the aircraft by type, colour and registration.

1.1.25 As the MiG-29 was manoeuvring to intercept the aircraft it had in sight (N2456S), N2506 commenced a further exchange with Havana ACC on 133.7 MHz:

Time	Station	Transmission (Translation from Spanish)
15:20:27	N2506	Havana Centre November two five zero six
15:20:29	Havana	November two five zero six Havana
15:20:31	N2506	Warm greetings. We report to you from twelve miles from Havana and proceed on our search and rescue course to the east. It's a beautiful day today and Havana looks just fine from up here. Cordial greetings to you and to all the people of Cuba from Brothers to the Rescue.
15:20:50	Havana	Havana roger.



AIS/MAP 07/6/96

Chart 2 - Intended search tracks for the three Cessna aircraft and their southernmost positions according to Cuban and U.S. radar data.

1.1.26 A recording made onboard N2506 of the intercom in that aircraft and of radio communications showed at 15:21 hours that the occupants of N2506 had noticed a Cuban MiG in the area. At 15:22 hours the pilot of N5485S informed N2506 that there was a MiG in the air.

1.1.27 The pilot of the MiG-29 reported to the ground control that he was going to make a warning pass on a blue and white Cessna 337 (N2456S). According to the pilot of the MiG-29, the warning pass was carried out by moving forward to the left of the Cessna and turning sharply to the right above and ahead of the aircraft, but the Cessna paid no attention to the pass and continued towards Havana at an altitude of 270 m. As the MiG-29 again approached it from behind, ground control authorized the destruction of the Cessna and the MiG-29 fired a missile from a position on the right quarter of N2456S, at a range of 2 to 2.5 km. The missile exploded on impact or in close proximity to N2456S. The Cessna was destroyed.

1.1.28 According to United States radar records, N2456S reached its southernmost position of 23 22.2N 082 30.0W at 15:19 hours, then turned north and continued north until it disappeared from radar at 15:22 hours at position 23 25.8N 082 25.6W.

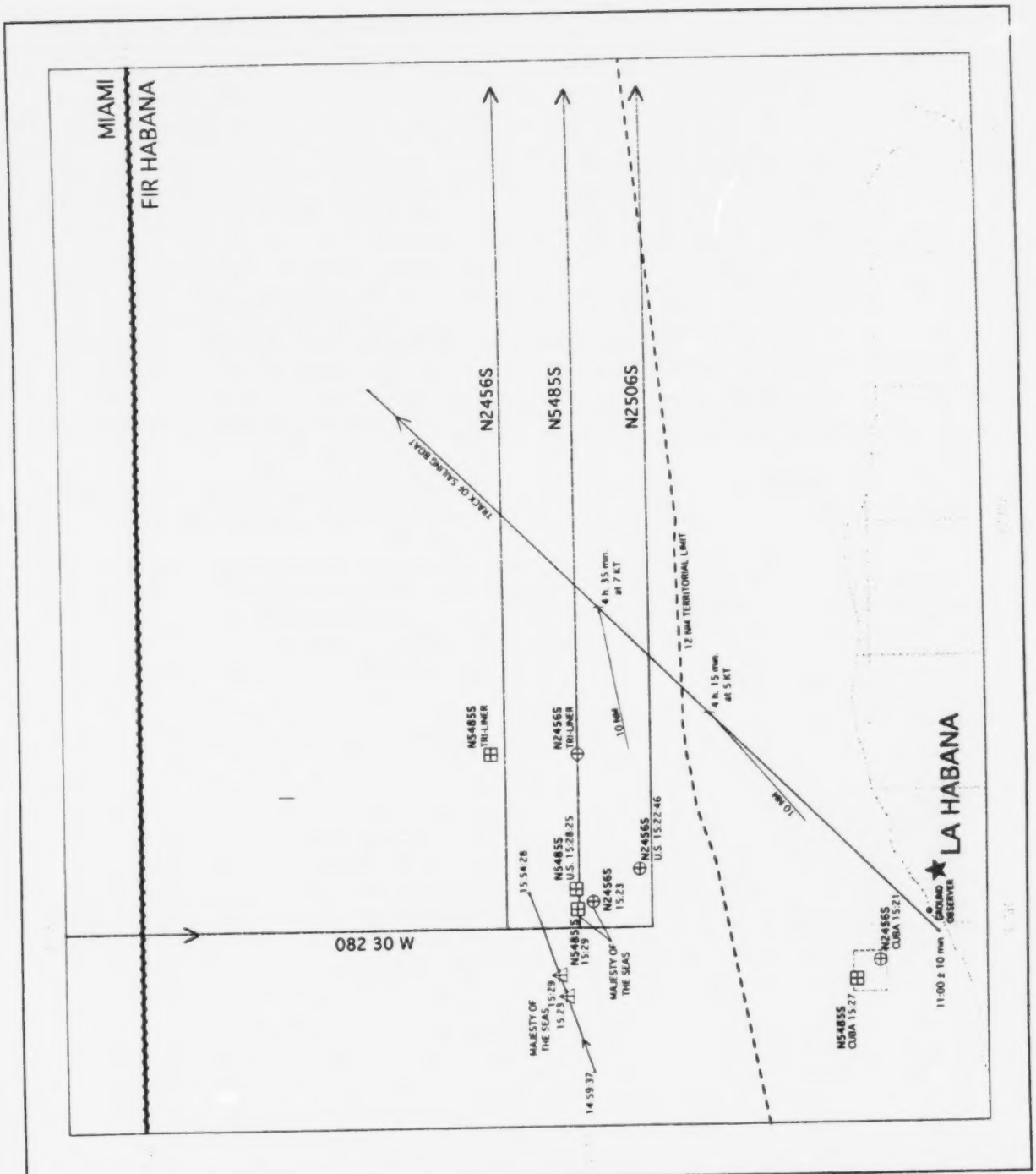
1.1.29 As derived from Cuban air defence radar sources and attested by a Cuban official, N2456S was destroyed at about 15:21 hours at position 23 09.4N 082 32.6W. Records from Cuban air defence radar stations show this aircraft to have entered the Cuban territorial airspace at 15:08 hours prior to its destruction 5NM north of Baracoa.

1.1.30 There were several eyewitnesses to the event. Personnel and passengers on board the *Majesty of the Seas* and the crew of the fishing boat *Tri-Liner* observed the destruction of an aircraft (N2456S) as well as the later destruction of another aircraft (N5485S). An observer on duty in an observation post on shore in Havana and the yachtsman on the sailing boat heard and saw one event, but neither of them was able to tell whether he saw the destruction of the first or the second aircraft.

1.1.31 The watchkeeping staff on the bridge of the *Majesty of the Seas*, at 15:23 hours in position 23 30.9N 082 35.1W, observed an explosion in the air at a height of 500 to 1 000 ft, on a bearing of 115°T, distance 6 to 7 NM. Debris was observed to fall into the sea beyond the fishing boat *Tri-Liner*, which they had been monitoring. The location was established as 23 29N 082 28W, based upon the position of the ship and the bearing and radar distance of the fishing boat. The *Majesty of the Seas* observed the fishing boat turn and head towards the impact position of the debris. Shortly thereafter the fishing boat was seen to resume its northerly course. A number of passengers and other crew members also saw the explosion and the falling debris. The occurrence was recorded in the ship's log.

1.1.32 A crewman of the *Tri-Liner* heard and saw an explosion directly overhead, and called the master, who was below deck. Both observed an aircraft on fire tumbling into the water 200 to 400 yards astern of their vessel. A military type aircraft was also seen. The fishing boat turned around, approached the impact position, and observed some small debris and an oil slick. A 1.5 ft square orange-coloured box or float, with a yellow line attached, was seen but not recovered. The boat remained on the scene for about ten minutes; no other items came to the surface. The *Tri-Liner* then resumed its course to the north. The master later estimated the time of the explosion as 15:15 hours and the position as 23 30N 082 17W.

1.1.33 The yachtsman on the sailing boat observed a military aircraft flying over his boat at about 15:00 hours and saw it again 8 to 10 minutes later, some 3 to 4 NM astern. Shortly thereafter he heard a double explosion and observed a falling object trailing smoke, but no impact splash, about



AIS/MAP 07/6/96

Chart 3 - Positions of the shoot-down of N2456S and N5485S according to Cuban and U.S. radar data, the Majesty of the Seas and the Tri-Liner.

20 degrees from directly astern, on the port side. He later estimated the position of his boat at the time to have been between 23 19.6N 082 15.3W and 23 22.6N 082 12.3W. Based on his observations he estimated the position of the impact site to have been not more than 10 NM from his boat and between 23 18.0N 082 19.3W and 23 22.5N 082 16.0W. The yachtsman neither saw nor heard another event and was unable to tell whether he had observed the destruction of the first or the second aircraft.

1.1.34 An observer on duty at an observation post west of Nautico (23 06N 082 29W) in Havana stated that he had been advised at 15:15 hours of the presence of intruding aircraft in Cuban territorial airspace. Whilst carrying out a visual search to seaward, with the aid of anti-aircraft binoculars, he saw a military aircraft and, shortly after, an aircraft in flames falling into the sea at a distance estimated as 5 to 6 NM northwest of his position. The observer neither saw nor heard another event and was unable to tell whether he had observed the destruction of the first or the second aircraft.

1.1.35 The occupants onboard N2506 and N5485S saw what they described as a flare with a parachute. Both aircraft attempted to contact N2456S by VHF radio without success.

1.1.36 Immediately after the destruction of N2456S, Cuban air defence ground control dispatched a search and rescue (SAR) helicopter to the area of impact.

1.1.37 During the next few minutes the *Tri-Liner* remained in the area of impact. The *Majesty of the Seas* continued on its heading of 069°T at 14 kt and the sailing boat continued tracking 044°T.

1.1.38 According to United States air defence radar sources, N2506 reached its southernmost position of 23 18.6N 082 25.6W (about 1.5 NM inside Cuban territorial airspace) at 15:20 hours, after which the aircraft turned towards the northeast. For the next six minutes N2506 maintained this heading. Cuban radar records showed that N2506 was within Cuban territorial airspace from 15:15 to 15:23 hours and reached its southernmost position 4 NM from the coast north of Havana. The pilot of N2506 stated that he did not enter Cuban territorial airspace on this flight.

1.1.39 Between 15:22 and 15:27 hours N2506 and N5485S continued their attempts to contact N2456S.

1.1.40 After the shoot-down of N2456S, the MiG-29 had been instructed to climb to 4 000 m and remain in the area. At 15:24 hours the pilot of the MiG-29 reported that he had another aircraft in sight. For the next three minutes the MiG-29 manoeuvred in pursuit of this aircraft (N5485S). According to the pilot of the MiG-29 he made a similar warning pass on this Cessna, turning sharply above and ahead of the Cessna from the left, but the Cessna paid no attention to the pass. At 15:25 hours the pilot of the MiG-29 was authorized to destroy the second Cessna. He later stated that it was on a heading towards Havana when he fired a missile from a position on its right rear quarter. The missile destroyed the second Cessna. The Cuban SAR helicopter was re-directed to the second impact site.

1.1.41 The second Cessna (N5485S) disappeared from the Cuban air defence radar between 15:25 and 15:27 hours at position 23 11.0N 082 34.1W, 6 NM off the coast of Havana. The time and position derived from United States radar sources was 15:28 hours, position 23 30.2N 082 27.1W.

1.1.42 The second shoot-down was witnessed by several crew members and passengers on board the *Majesty of the Seas*, and by the crew of the *Tri-Liner*. The observer on shore in Havana and the yachtsman heard and saw one event, but neither of them was able to tell whether it was the destruction of the first or the second aircraft.

1.1.43 The watchkeeping staff on the bridge and many of the passengers and other crew members on the weather decks of the *Majesty of the Seas* saw a small aircraft circling in an area to the east. According to the ship's log, at 15:27 hours the small aircraft approached from the starboard side heading north; it turned towards the ship for about a minute before turning north again. At 15:29 hours, when the aircraft was on a bearing of 095°T at a distance of 4 to 5 NM, a military aircraft appeared high up on the starboard side of the ship, and was observed to fire a missile. Seconds later the missile struck the small aircraft which was destroyed. Some wreckage was observed to burn for about half a minute before sinking. At this time the ship was at position 23 31.4N 082 33.5W. The estimated position of the impact of the wreckage with the water was 23 30.1N 082 28.6W. At 15:45 hours, when the ship was in position 23 32.6N 082 29.7W, at its closest point to the impact site, a thin oil slick was observed extending from a bearing of 150°T to 170°T, at a distance of 2 to 3 NM.

1.1.44 The crew of the fishing boat *Tri-Liner*, which had just resumed its course to the north, observed a small aircraft circling in the vicinity of their boat. As the aircraft was to the north of the *Tri-Liner*, they observed a military aircraft approach it from behind and fire a missile. The aircraft exploded in a large fireball before impacting the water. The military aircraft was observed to leave the area. The master later estimated the position of the impact as 23 36N 082 17 W. The *Tri-Liner* did not approach the second impact site. The crew observed a white cruise ship and estimated that the impact was 3 to 5 NM in front of that ship. The *Tri-Liner* later reported both occurrences to the United States Coast Guard.

1.1.45 The occupants of N2506 observed a flare and a ball of smoke at 15:28 hours. Subsequently, N2506 called both N5485S and N2456S without success. The pilot decided to leave the area, and he stated that he switched off the transponder and sought cover in scattered clouds. The Cuban radar record showed this aircraft tracking to the north and crossing the 24N parallel northbound at 15:42 hours at 082 25W. The United States radar record also showed a northerly progress; it showed no transponder return for N2506 from 15:33 hours in position 23 41.7N 082 26.0W to 15:42 hours in position 24 02.6N 082 32.2W. This record also showed that N2506 was at a very low altitude until the loss of transponder returns at 15:33 hours; was at 2 900 ft when the transponder returns were again received from 15:42 hours; and was at position 24 13N 082 35W at 15:46 hours.

1.1.46 Subsequent to the destruction of the second Cessna, the MiG-29 and the MiG-23 returned to base, and landed at 15:36 and 15:38 hours, respectively.

1.1.47 At 15:31 hours a second pair of Cuban military interceptor aircraft was launched to pursue a radar contact east of Havana and north of Bejucal. At 15:40 hours the interceptors were directed to fly north from a position 5 kilometres north of Santa Cruz in pursuit of a radar contact. At 15:45 hours the interceptors reported seeing a light blue and white Cessna 337 but were unable to read the registration. This aircraft was reported to be at an altitude of approximately 2 000 m. At 15:51 hours the interceptors were instructed to discontinue the mission. According to the authorities in Cuba, the reason was that the contact was then outside Cuban territorial airspace and withdrawing to the northeast. United States radar sources indicated that this search was in the area of 23 35N 082 58W, and did not show any radar contact in that area other than the Cuban interceptors. At the time of this search N2506 was tracking well to the north and was at 15:46 hours, according to both the Cuban and the United States radar records, some 40 NM northwest of the Cuban interceptors.

1.1.48 N2506 called Miami AIFSS at 15:46 hours and reported the possible loss of two aircraft, N2456S and N5485S, 20 to 25 NM north of Havana. N2506 also reported the presence of Cuban MiGs in that area. At 16:00 hours Miami AIFSS transmitted a telephone number (FAA Operations Center,

Washington, D.C.) for the pilot of N2506 to call upon landing. Miami AIFSS also enquired whether N2506 could land at Key West and call Miami AIFSS. At 16:11 hours N2506 was again in contact with Miami AIFSS and advised that he intended to proceed to Opa Locka Airport instead of landing at Key West, which he reported to have in sight at that time. At 16:14 hours Miami AIFSS offered navigational assistance because N2506 had been observed on radar to have looped well to the west, before resuming a heading towards South Florida. N2506 declined the assistance.

1.1.49 Between 16:18 and 16:25 hours N2506 was in contact with the approach facility at the United States Naval Air Station at Key West. The pilot reported the possible loss of two aircraft, advised that he had reported this to Miami AIFSS already, and informed of his intent to proceed to Opa Locka Airport.

1.1.50 N2506 landed at Opa Locka Airport at 17:08 hours. The pilot was subsequently interviewed by representatives of several United States Government agencies, including Customs, FAA, Coast Guard, and FBI.

1.2 Injuries to persons

1.2.1 The pilot and the three other occupants of the Cessna T337H, N2506, returned to Opa Locka Airport, and were not injured. The four occupants were citizens of the United States.

1.2.2 The pilot and the other occupant of the Cessna 337C, N2456S, are missing and presumed fatally injured. The pilot was a citizen of the United States, and the other occupant was a legal resident of the United States.

1.2.3 The pilot and the other occupant of the Cessna 337B, N5485S, are missing and presumed fatally injured. Both occupants were citizens of the United States.

1.3 Damage to aircraft

1.3.1 The Cessna 337C, N2456S, and the Cessna 337B, N5485S, were each destroyed by one air-to-air missile fired from a Cuban MiG-29 military aircraft. Both Cessna aircraft broke up in the air from the explosions of the missiles, the wreckage impacted the sea and sank.

1.4 Other damage

1.4.1 There was no other damage.

1.5 Personnel information

1.5.1 Pilot of the Cessna T337H, N2506

1.5.1.1 The pilot of the Cessna T337H, N2506, was qualified in accordance with existing United States Federal Aviation Regulations (FAR). The pilot, male, 55 years of age, held a commercial pilot licence No. 2122405 issued 14 May 1980, with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He held a valid second class medical certificate issued 22 March 1995. His total flying experience was about 3 000 hours, of which about 500 hours were in Cessna 337 aircraft.

1.5.2 **Pilot of the Cessna 337C, N2456S**

1.5.2.1 The pilot of the Cessna 337C, N2456S, was qualified in accordance with existing United States FARs. The pilot, male, 29 years of age, held a commercial pilot licence No. 590012404 issued 2 June 1992, and a flight instructor certificate issued 26 June 1992, both with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He held a valid first class medical certificate issued 13 September 1995. His total flying experience was about 800 hours, of which about 400 hours were in Cessna 337 aircraft.

1.5.3 **Pilot of the Cessna 337B, N5485S**

1.5.3.1 The pilot of the Cessna 337B, N5485S, was qualified in accordance with existing United States FARs. The pilot, male, 24 years of age, held a commercial pilot licence No. 595668753 issued 20 June 1994, with ratings for aeroplane single-engine land, aeroplane multi-engine land and instrument aeroplane. He also held certificates for ground instructor-basic issued 14 February 1995, flight instructor (aeroplane single-engine land) issued 12 May 1995, and mechanic-airframe issued 24 August 1990. He held a valid first class medical certificate issued 8 June 1995. His total flying experience was about 700 hours, of which about 250 hours were in Cessna 337 aircraft.

1.5.4 **Pilot of the MiG-29**

1.5.4.1 The pilot of the MiG-29 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The pilot, male, 44 years of age, held the rank of Lieutenant Colonel. His total flying experience was over 1 000 hours, of which about 500 hours were in MiG-29 aircraft. He had been flying MiG aircraft for 19 years and had participated in three international assignments, including 74 combat missions.

1.5.5 **Co-pilot of the MiG-29**

1.5.5.1 The co-pilot of the MiG-29 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The co-pilot, male, 44 years of age, held the rank of Lieutenant Colonel. His total flying experience was over 1 800 hours. He had been flying for 26 years and had participated in international assignments, including over 30 combat missions.

1.5.6 **Pilot of the MiG-23**

1.5.6.1 The pilot of the MiG-23 was qualified in accordance with existing Cuban Anti-Aircraft Defence/Air Force regulations. The pilot, male, 35 years of age, held the rank of Major. His total flying experience was over 800 hours. He had been flying MiG aircraft for 15 years, and had participated in two international assignments, including some combat missions.

1.6 **Aircraft information**

1.6.1 **General information on Cessna 337**

1.6.1.1 The Cessna 337 is an all-metal four/six-seat business aircraft powered by two reciprocating engines, each driving a two-blade fully-feathering constant speed metal propeller. The front engine is arranged as tractor, and the rear engine as pusher. The tail unit consists of twin fins and rudders carried on two slim metal booms. Maximum certified take-off mass is 2 100 kg (4 630 lb).

1.6.1.2 The prototype (Cessna 336) flew for the first time in 1961, and FAA Type Approval was received in May 1962. In February 1965 the Cessna 336 was superseded by the model 337. Production was terminated in 1980. A total of 2 386 model 336/337 were built by Cessna, and 94 model 337 by Reims Aviation, France.

1.6.1.3 The turbo model (Cessna T337) is similar to the 337 model, but is powered by two turbocharged engines.

1.6.2 **Details of N2506, N2456S and N5485S**

Nationality and registration marks	N2506	N2456S	N5485S
Aircraft model	Cessna T337H	Cessna 337C	Cessna 337B
Year of manufacture	1978	1967	1967
Serial number	337-01871	337-0756	337-0585
Owner (purchase date)	Brothers to the Rescue Inc. (17 August 1993)	Brothers to the Rescue Inc. (29 April 1994)	Pipe Air Inc. (13 December 1993)
Certificate of Airworthiness (date of issue)	Valid (17 March 1994)	Valid (8 November 1967)	Valid (20 May 1992)
Engine type (number of)	Continental TSIO-360 SER (2)	Continental IO-360-C (2)	Continental IO-360-C (2)
Total flying time (date as of)	1 217.7 hours (17 March 1994)	3 239.0 hours (29 April 1994)	3 486.5 hours (18 January 1994)

1.6.3 **Avionics and modifications to the Cessna T337H, N2506**

1.6.3.1 The avionics on N2506 were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: audio panel KMA 20, Garmin GPS-100, NAV COM KX155 with glide slope KI-209 indicator, NAV COM KX155 with KI-208 indicator, KR870 ADF with KI-227, KN-64 DME, and KT-76A transponder. On the left side instrument panel was a radio altimeter. On the right side instrument panel was a Chaddin fuel totalizer. On the left console below the control column and light switches were two HF/FM communication systems.

1.6.3.2 The major modifications on N2506 consisted of installation of a short take-off and landing (STOL) kit (30 June 1992); removal of the aft main landing gear doors and installation of fixed panels (7 January 1993); installation of HF/FM communication systems (16 March 1994); installation of wind

deflectors and video camera (20 May 1994); removal of video camera and wind deflectors, and reinstallation of upper half of passenger entry door (14 June 1994).

1.6.4 Avionics and modifications to the Cessna 337C, N2456S

1.6.4.1 The avionics on N2456S were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: Garmin GPS-100, audio panel KMA 20, NAV COM KX155 with glide slope KI-208 indicator, KR85 ADF, and KT-76A transponder. Instead of the left rear seat, a radio rack was installed with two non-pilot operated HF/FM communication systems.

1.6.4.2 The major modifications on N2456S consisted of installation of HF/FM communication systems (10 March 1994); installation of leading edge cuffs, stall fence and vortex generators on rear engine (3 August 1994); replacing the entry door (P/N 1517080-1) and installation of wind deflector on the new door (10 August 1994).

1.6.5 Avionics and modifications to the Cessna 337B, N5485S

1.6.5.1 The avionics on N5485S were mounted in the instrument panel in accordance with Cessna factory recommendations. The order from top to bottom was: Garmin GPS-100, audio panel KMA 20, NAV COM KX155 with glide slope KI-209 indicator, NAV COM KX170B, KR85 ADF, and KT-76A transponder. Instead of the left rear seat, a radio rack was installed with two non-pilot operated HF/FM communication systems.

1.6.5.2 The major modifications on N5485S consisted of installation of an anti-collision strobe light system (22 May 1969); installation of a STOL kit (19 September 1990); removal of the aft main landing gear doors and installation of fixed panels (20 May 1992); installation of HF/FM communication systems (17 December 1993); and installation of entry door and wind deflector (14 February 1994).

1.6.6 MiG-29 UB

1.6.6.1 The MiG-29 UB is a two-seat combat trainer that has been in production since 1982. It is powered by two Tumansky R-33D turbo-fan engines. It has one 30 mm gun, infra-red sensor, laser rangefinder and underwing pylons for six close-range air-to-air missiles. Maximum speed is Mach 2.3, service ceiling 17 000 m, take-off distance 240 m and landing distance 600 m.

1.6.6.2 The Mig-29 carried six R-73 air-to-air missiles. The R-73 is a close-range solid propellant air-to-air missile with infra-red homing guidance. It has a canard configuration with small cruciform control surfaces in tandem with nose foreplanes and cruciform rear mounted wings. This configuration provides high manoeuvrability with a minimum range of under 500 m. The R-73 missile is 2.90 m long, 17 cm in diameter, has a mass of 105 kg and a maximum range of 20 km. The missile has both a contact and a proximity fuse. It has a 7.4 kg explosive charge that creates a ring shape of shrapnel that moves forward and outwards.

1.6.7 MiG-23 ML

1.6.7.1 The MiG-23 ML is a single-seat variable geometry air combat fighter that was in production from 1973 to the mid-1980s. It is powered by one Tumansky R-35F-300 turbojet with afterburner. It has one 23 mm gun; J band multi-mode radar; head-up display; pylons for air-to-air

missiles, bombs, rocket packs or other external stores. Maximum speed is Mach 2.35, service ceiling 18 000 m, take-off distance 500 m and landing distance 750 m.

1.7 Meteorological information

1.7.1 Weather situation

1.7.1.1 A high pressure centre (1019 hPa) located between South Florida and the Northern Bahamas dominated the weather of the Florida Straits between 07:00 and 19:00 hours on 24 February 1996. The surface winds were light (20 km/h or less) and predominantly easterly. The visibility was fair (6 km or more) and the cloud amount varied from clear to scattered (4 oktas or less), with bases of clouds between 450 and 1 050 m (1 500 and 3 500 ft). The absence of clouds of great vertical extent was confirmed by a satellite image taken by the US NOAA GOES-8 satellite at 15:45 hours on 24 February 1996.

1.7.2 Forecast and actual weather en-route of the flight

1.7.2.1 In the area concerned no significant weather was forecast by the Havana meteorological office and the United States Aviation Weather Centre (AWC) (Kansas City, Missouri), nor did it occur. No SIGMET[2] information was issued for the Florida Straits by the meteorological watch offices concerned.

1.7.2.2 The upper winds at flight level (FL) 50 and FL 100 were light, from the north-north-easterly sector at 10-20 km/h; the corresponding upper air temperatures were +15°C and +7°C, respectively.

1.7.3 Weather observations

1.7.3.1 The weather observation made at 15:00 hours at Havana/José Marti International Airport indicated northerly surface winds at 18 km/h, visibility of 9 km, scattered clouds (3 to 4 oktas) at 600 m (2 000 ft), air temperature 28°C, dew-point temperature 15°C and QNH 1016 hPa. The state of the sea was calm to smooth (wave height less than 0.5 m). The weather conditions as described above continued for several hours.

1.7.4 Light conditions

1.7.4.1 The sun rose at 06:56 hours and set at 18:30 hours.

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[2] SIGMET information. Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

1.8 Aerodrome information

1.8.1 Miami/Opa Locka Airport

1.8.1.1 The three Cessna 337 aircraft departed from Miami/Opa Locka Airport (KOPF), an international aerodrome for scheduled, non-scheduled and private traffic. Customs, immigration and health services are provided from 09:00 to 17:00 hours, Monday through Saturday, with a limitation on the number of passengers (30) that can be processed by Customs.

1.8.1.2 Opa Locka Airport has four runways. Runway 09L/27R is the longest runway, 2 440 m long and 46 m wide (8 002 x 150 ft). Air traffic control service is provided, with separate controllers for ground control and aerodrome control during busy periods.

1.8.2 San Antonio de los Baños Airport

1.8.2.1 The MiG-29 and MiG-23 military aircraft involved in the interception operated from San Antonio de los Baños Airport, a military airport southwest of Havana.

1.9 Air traffic services, communications and aids to navigation

1.9.1 At 09:12 hours, Miami AIFSS received by telephone six flight plans for international flights under VFR by the following aircraft operated by the Brothers to the Rescue: Cessna T337H, N2506; Cessna 337C, N2456S; Cessna 337B, N5485S; Cessna 337G, N108LS; Cessna 337B, N2329S; and Cessna 310J, N312MX. These aircraft were planned to depart from Opa Locka Airport at 10:15 hours, with two persons on board each aircraft, for a five-hour "rafter rescue flight" and to return to Opa Locka Airport. In accordance with the Aeronautical Information Publication (AIP) United States, a flight plan was required for VFR flights penetrating a United States ADIZ; an ICAO format flight plan was required, and filed, because the flight intended to cross the Miami/Havana FIR boundary.

1.9.2 The planned route of flight was from Opa Locka Airport through Miami FIR to cross the common boundary with Havana FIR at position 24 00N 080 25W, then via 23 30N 80 25W, 23 30N 082 45W and 24 00N 082 45W back to Opa Locka Airport. Within Havana FIR this route would cross danger areas MUD-8, MUD-9 and MUD-14. The AIP Cuba stated that danger areas MUD-8 and MUD-14 extended from surface to FL 055 and danger area MUD-9 from surface to FL 900. It furthermore listed the type of restriction as air-air, surface-air and surface-surface firing for MUD-8; air drills, air-surface and surface-surface firing for MUD-9; and air and naval drills for MUD-14; their activation to be announced by NOTAM. Danger areas MUD-8, MUD-9 and MUD-14 were promulgated by the Havana International NOTAM Office (NOTAMs A0268/96, A0269/96 and A0270/96, respectively) as being active from 08:00 to 18:30 hours daily from 21 to 28 February 1996. No additional information on the type of hazard was contained in the NOTAMs.

1.9.3 Miami AIFSS verified that the pilot submitting the flight plans had checked the applicable NOTAMs, and assigned a discrete secondary surveillance radar (SSR) transponder code to each of the aircraft from the 1200 code series allocated to VFR flights. Between 09:23 and 09:28 hours the six flight plans were transmitted to Miami ARTCC and Havana ACC. None of the aircraft departed at the flight plan time of departure.

1.9.4 At 11:47 hours the flight plans for N2506, N2456S and N5485S were amended by telephone, with a revised departure time of 12:30 hours and with four persons on board N2506. New

filed flight plan messages for the three aircraft were transmitted to Miami ARTCC and Havana ACC. At Miami ARTCC, these flight plans were used by the aircraft movement information service (AMIS) sector, for the purpose of monitoring aircraft operating in the United States ADIZ. At Havana ACC, the flight plan information was forwarded to the Joint National Centre for Flight Planning (CNCPV), the civil/military co-ordination unit for the planning and control of all flights over Cuban territory and in Havana FIR. The flight plans for the other three aircraft (N108LS, N2329S and N312MX) expired at 12:15 hours and were deleted from the Miami AIFSS computers.

1.9.5 Between 13:01 and 13:03 hours, N5485S, N2456S and N2506 called Opa Locka ground control on VHF radio frequency 121.9 MHz and received taxi clearance to runway 09L for a westbound departure. They were transferred to Opa Locka TWR (local control north position) operating on 120.7 MHz, received their clearance for take-off, and departed at 13:11 (N2506), 13:12 (N2456S) and 13:13 hours (N5485S). N5485S, N2456S and N2506 contacted Miami AIFSS (call sign Miami Radio) at 13:16, 13:18 and 13:24 hours, respectively, to activate their flight plans. Miami AIFSS requested the aircraft to verify their assigned SSR codes 1224 (N5485S), 1223 (N2456S) and 1222 (N2506). A departure message for N5485S was sent to Miami ARTCC and Havana ACC at 13:19 hours and for N2506 at 13:24 hours, but no departure message was transmitted for N2456S due to an operator error.

1.9.6 The three aircraft communicated with each other on VHF radio using frequency 122.75 MHz and also maintained radio contact with their base station (located at the hangar of the Brothers to the Rescue at Opa Locka Airport) using VHF radio with a repeater or HF radio. Navigation was by visual contact with the ground, aided by GPS. Several ground-based navigation aids, including VHF omnidirectional radio range/distance measuring equipment (VOR/DME), were available both in the United States and Cuba.

1.9.7 The actual route of flight was different from the route given in the flight plans, as the aircraft first proceeded in a southwesterly direction, then turned south towards TADPO, a reporting point on Air Traffic Services (ATS) route G448. About 10 NM north of TADPO, the aircraft proceeded in a westerly direction along the 24 10N parallel, just north of the common Miami/Havana FIR boundary and turned south at longitude 082 30W in the direction of Havana. According to the pilot of N2506, the intent was for the three aircraft to turn east and proceed on three parallel tracks (23 35N, 23 30N and 23 25N) for their search mission.

1.9.8 At 14:56 hours N5485S reported to Havana ACC on frequency 133.7 MHz crossing the 24N parallel and its intent to remain in the area for approximately five hours. At 14:57 hours N2456S and N2506 informed Havana ACC that they would cross the 24N parallel in five minutes. All three aircraft confirmed their transponder codes. N2506 indicated its intent to remain in the area north of Havana for three to four hours and to remain in contact with Havana ACC. Havana ACC informed N2506 that the danger areas north of Havana were activated and that the aircraft was taking a risk by flying south of the 24N parallel. N2506 replied, "We know that we are in danger each time we fly into the area south of twenty-four, but we are ready to do so as free Cubans." At 15:20 hours N2506 reported its position as 12 NM from Havana, and proceeding on its search and rescue course to the east.

1.9.9 At 15:46 hours, N2506 reported to Miami AIFSS that it was returning from a search and rescue mission and that radio contact with the two other Brothers to the Rescue aircraft (N5485S and N2456S) had been lost 20 to 25 NM north of Havana. N2506 reported that MiG aircraft had operated in the area, that a large ball of smoke was seen in the water at 3 NM distance, and expressed concern that it might have been one of the Brothers to the Rescue aircraft. Miami AIFSS requested the position and time of the MiG aircraft sightings, which at 15:52 hours N2506 reported as 23 30N 082 30W about

30 minutes earlier. At 15:53 hours, Miami AIFSS requested N2506 to maintain radio contact. N2506 did not respond to several calls between 15:56 and 16:00 hours. Radio contact was re-established and at 16:01 hours Miami AIFSS asked the pilot of N2506 if he could land at Key West.

1.9.10 At 16:11 hours, N2506 reported Key West in sight and asked the reason for the request to land there. N2506 was informed that the supervisor wished to talk with him. However, N2506 indicated its intent to proceed to Opa Locka Airport. The pilot also declared an emergency concerning the two other aircraft, in view of the likelihood that they had been shot down by the MiG aircraft. Miami AIFSS replied that the authorities had been advised of the situation and asked if N2506 required any navigational assistance. N2506 declined such assistance.

1.9.11 At 16:18 hours, at a distance of 20 NM northwest of Key West, N2506 contacted Key West Approach, squawking transponder code 1222 for identification, and reported a possible emergency in regard to the two other aircraft (N5485S and N2456S) north of Havana and the presence of MiG aircraft in that area. The pilot reported that he had already informed Miami AIFSS accordingly. Radar service to N2506 by Key West Approach was terminated at 16:25 hours.

1.9.12 At 16:53 hours, as N2506 was approaching Opa Locka Airport, it cancelled its flight plan with Miami AIFSS. At 17:00 hours, N2506 received a clearance from Opa Locka TWR for a straight-in approach to runway 09L, was requested to select transponder code 1200, and to squawk ident. Upon clearance to land, N2506 landed at Opa Locka Airport at 17:08 hours and was transferred to ground control at 17:09 hours. On frequency 121.9 MHz, Opa Locka ground control requested N2506 to taxi to the customs trailer.

1.10 **Interceptor control, communications and aids to navigation**

1.10.1 Cuban Anti-Aircraft Defence ground control controlled the interceptors based on information from several radar stations located in the Havana area.

1.10.2 Communications between aerodrome control, air defence ground control, and the interceptors was maintained on a UHF radio frequency. The interceptors were equipped with one twenty channel UHF/VHF radio, type 862; channels 1 to 19 were UHF and channel 20 VHF, 121.5 MHz. This equipment provided the capability of transmission and reception on one selected channel. It was not possible to select a channel for transmission and reception and to simultaneously monitor another channel. It was not possible for the two pilots in the MiG-29 to communicate simultaneously on independent channels. Communications between the interceptors, the SAR helicopters, and the ground control were exercised on channel 1 from take-off to landing.

1.10.3 The military ground control station was also equipped to communicate on the normal civil air traffic VHF frequencies, including the emergency frequency 121.5 MHz.

1.10.4 For navigation purposes the interceptors operated under the control of the military ground control station based on radar derived positional information. Positions were confirmed both visually, when in visual contact with the coast, and by use of an onboard inertial navigation system (INS). The INS provided bearing and distance from base and enabled distance from the coastline to be estimated.

1.11 **Flight recorders**

1.11.1 None of the three Cessna aircraft was equipped with a cockpit voice recorder (CVR) or a flight data recorder (FDR), nor were such recorders required by existing United States FARs.

1.11.2 According to the authorities in Cuba the MiG-29 aircraft was equipped with a Tester-UZ digital flight data recorder (DFDR). However, the data from the DFDR had not been routinely downloaded for some time, because the LUCH-71 read-out equipment was out of service due to a shortage of spare parts, and therefore the data could not be read out. The duration of the recording in the Tester-UZ recorder was three hours. In the two weeks after 24 February 1996 the MiG-29 had flown some seven hours, and therefore the recording from the flight on 24 February 1996 had been erased and recorded over with data from later flights. The MiG-29 was not equipped with a CVR.

1.11.3 The MiG-23 aircraft was equipped with a SARPP-12 GM FDR. The authorities in Cuba provided a read-out of altitude, airspeed, normal acceleration and lateral acceleration versus time for the flight between 14:55 and 15:36 hours. The MiG-23 was not equipped with a CVR.

1.12 **Wreckage and impact information**

1.12.1 The Cessna 337C, N2456S, and the Cessna 337B, N5485S, broke up in the air, the wreckage impacted the sea and sank. The wreckage had not been located by 31 May 1996. The depth of the sea is from 1 200 to 2 000 m in the area of the shoot-down.

1.12.2 According to the authorities in the United States involved in the search and rescue effort some floating debris and two oil slicks were spotted in the hours after the shoot-down. However, no debris was later found floating, nor was any debris recovered.

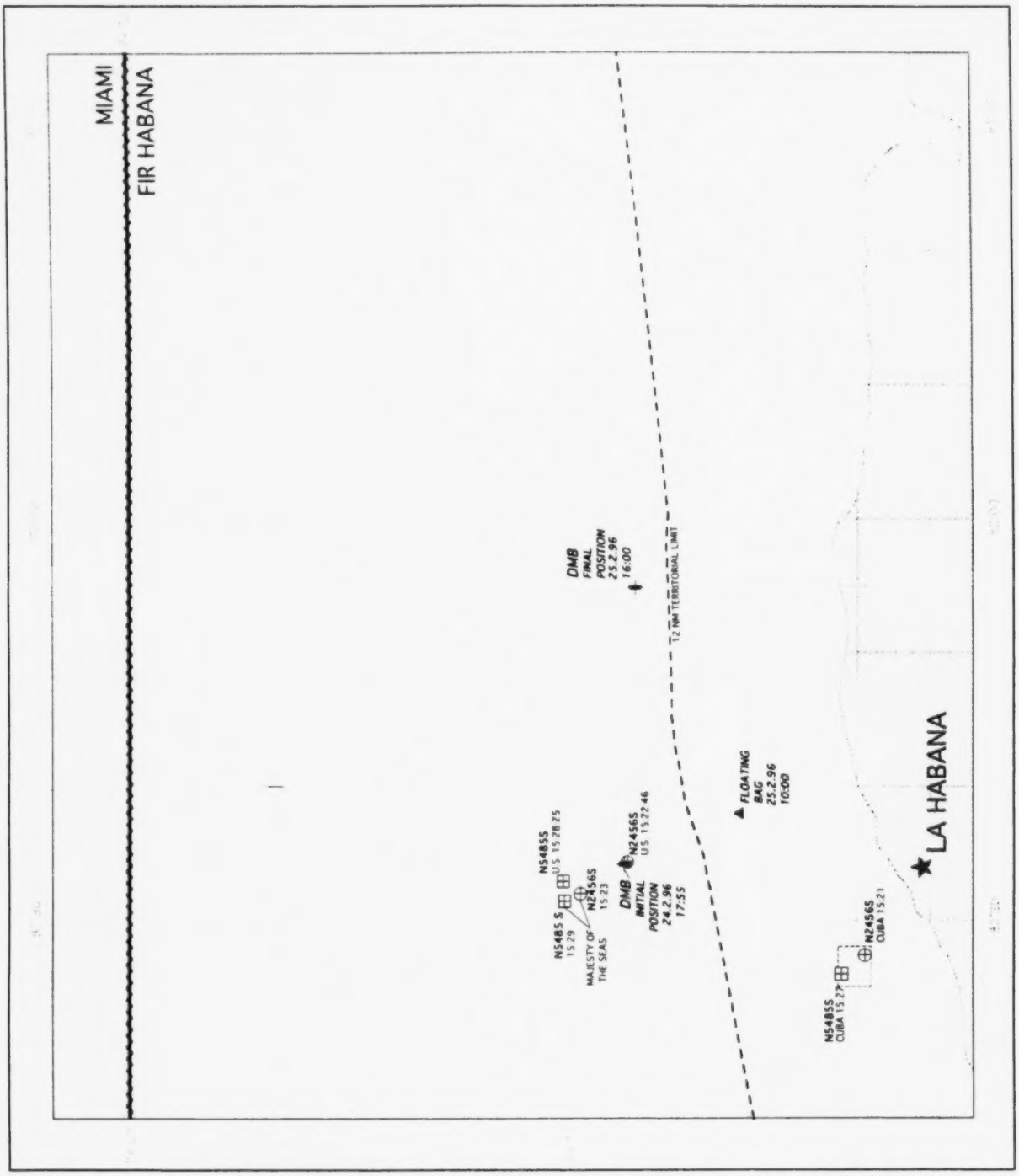
1.12.3 According to authorities in Cuba involved in the search and rescue effort a bag was recovered at 10:00 hours on 25 February 1996 in a position 9.3 NM north of Morro Castle in Havana at 23 18N 082 22W. The bag contained a battery charger of a type used for the batteries of video cameras and two Jeppesen high/low altitude en-route charts of the Caribbean area.

1.13 **Medical and pathological information**

1.13.1 The bodies of the four occupants of the two Cessna aircraft had not been recovered by 31 May 1996.

1.14 **Fire**

1.14.1 There was no indication of fire in either of the two Cessna aircraft prior to the explosion of the missiles. According to eyewitnesses some burning wreckage was seen falling into the sea and a fair amount of smoke was observed. The smoke was also evident from video recordings made by the pilot of N2506 and by a passenger on board the cruise ship *Majesty of the Seas*.



AIS/MAP 07/6/96

Chart 4 - Positions of the shoot-down of N2456S and N5485S according to Cuban and U.S. radar data, the Majesty of the Seas and the positions of the floating bag and the data marker buoy.

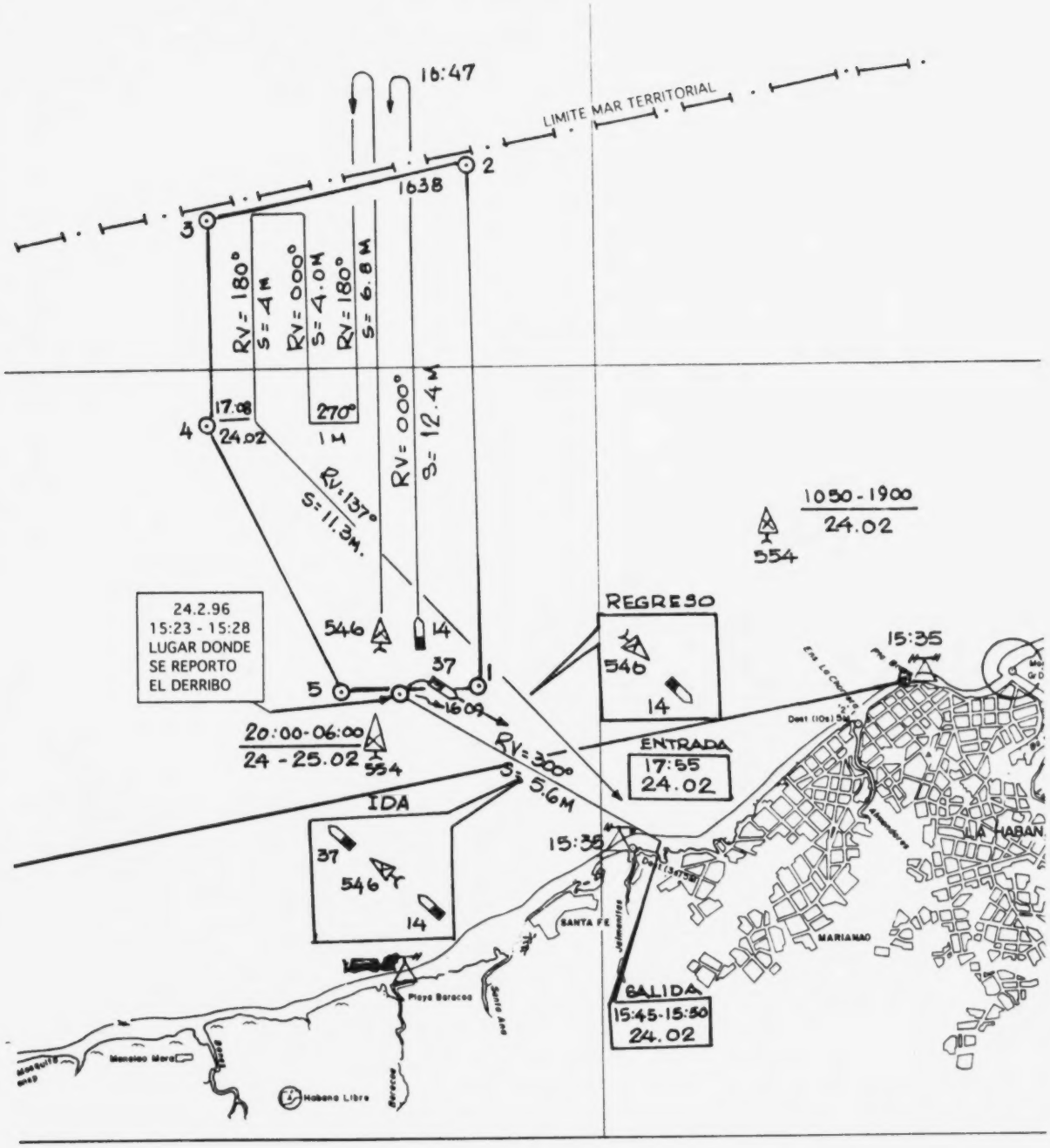


Chart 5 - Search and rescue activities by Cuba on 24 February 1996

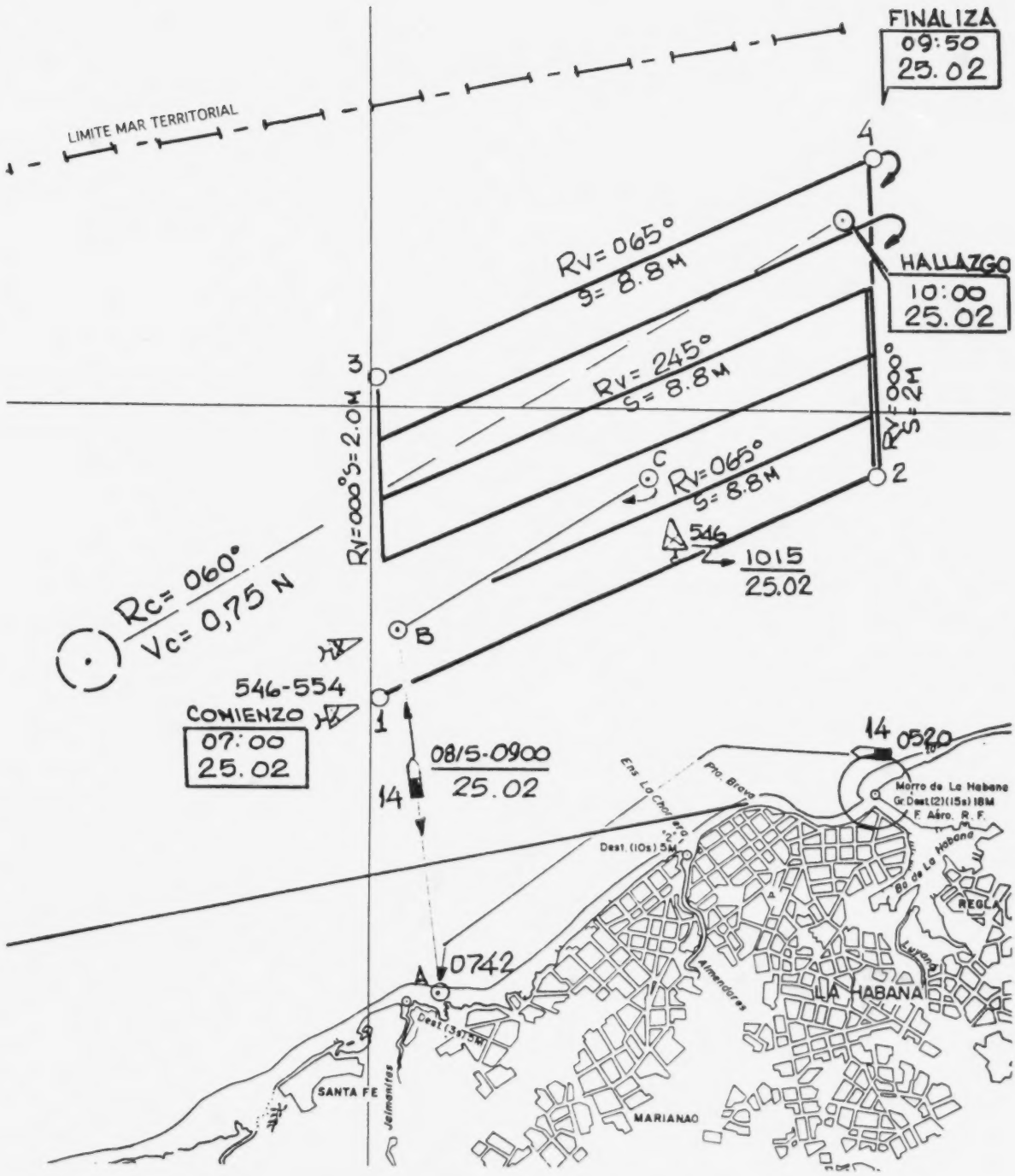


Chart 6 - Search and rescue activities by Cuba on 25 February 1996

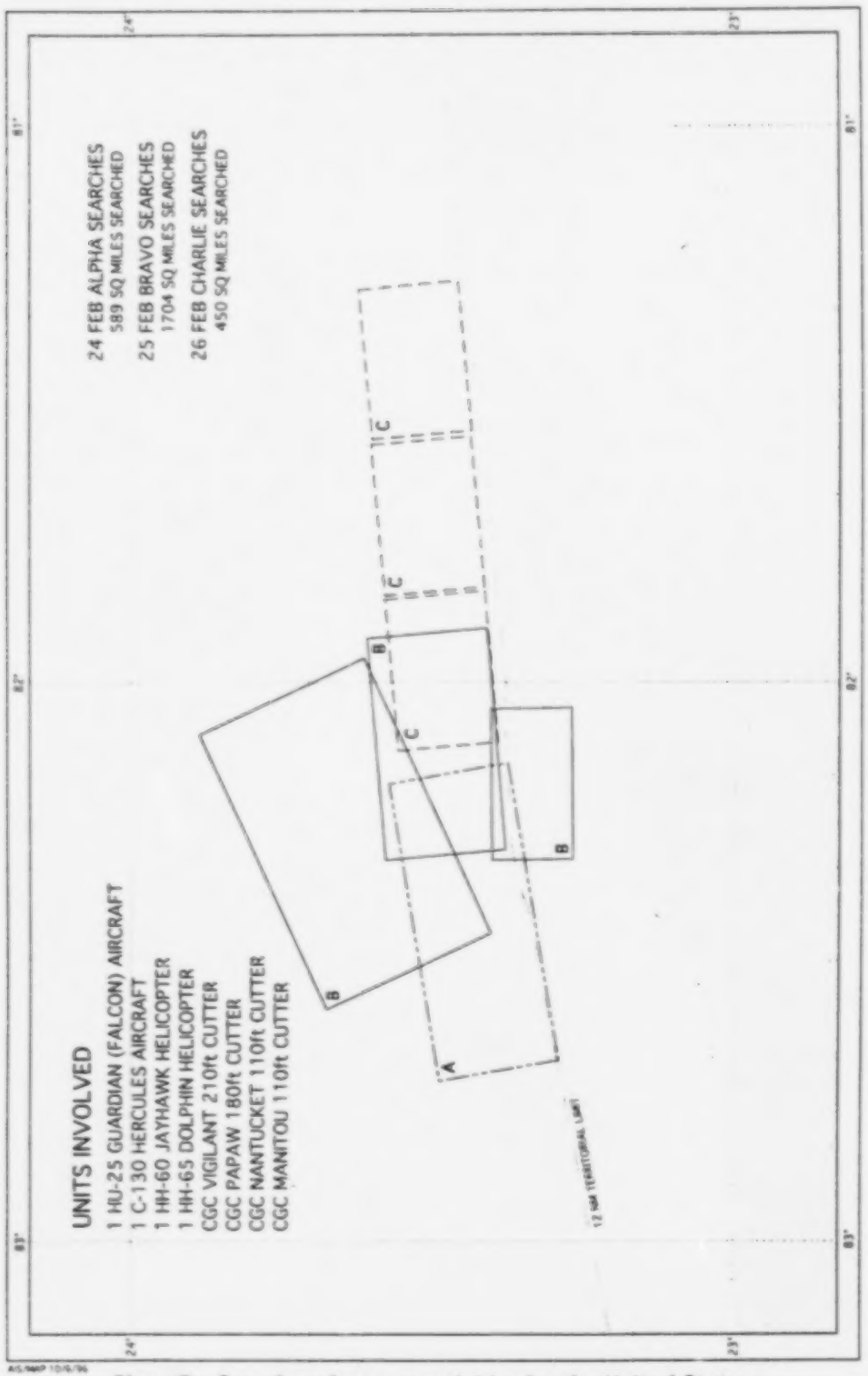


Chart 7 - Search and rescue activities by the United States from 24 to 26 February 1996

1.15 Search and rescue

1.15.1 Cuban SAR activities

1.15.1.1 On 24 and 25 February 1996, SAR missions were carried out by helicopters of the Revolutionary Armed Forces and vessels of the Border Patrol Troops. While the interceptions were in progress, the command centre of the Anti-Aircraft Defence Forces ordered the Rescue Services of the Air Force and of the Border Patrol Troops to alert status. After the shoot-down of the first Cessna aircraft, an MI-17 SAR helicopter reported, at 15:27 hours, leaving San Antonio de los Baños Airport to search for possible survivors, while a second MI-17 helicopter was ready to assist. The helicopter was initially directed to proceed in a northwesterly direction to an area 5 km north of Playa Baracoa. Also, a Border Patrol vessel and two speedboats were sent to an area 5 to 8 NM off the coast between the Banes and the Santa Ana rivers. However, the helicopter and surface vessels did not locate any survivors, nor was any wreckage found. All units completed their search within the initial search area (Chart 5) at 17:55 hours and returned to base.

1.15.1.2 On 25 February 1996, the SAR effort resumed at 05:20 hours. A speedboat searched an area between 23 09.6N 082 21.5W and 23 06.4N 082 28.7W until 07:42 hours, with negative results. Further searches, involving a helicopter and surface vessels, were conducted in the coastal areas near Havana and further north (Chart 6) until 12:20 hours. At 10:00 hours, a damaged video camera bag containing a battery charger and two Jeppesen charts was found by a Cuban Border Patrol vessel in position 23 18N 082 22W, 9.3 NM north of Havana. Between 13:25 and 16:25 hours, a Cuban patrol vessel searched for a United States data marker buoy in the vicinity of position 23 21.5N 082 11.2W, without success.

1.15.2 United States SAR activities

1.15.2.1 At 15:35 hours on 24 February 1996, the United States Coast Guard Seventh Coast Guard District received information from military intelligence sources that two Brothers to the Rescue aircraft were down in the sea north of Havana, and at 15:55 hours it received information that they had been shot down by Cuban MiG aircraft. In accordance with standard procedures, the Coast Guard determined search areas for initial "Alpha" (589 square miles) and subsequent "Bravo" (1 704 square miles) searches, taking into account the probable impact positions and available information on local currents.

1.15.2.2 At 16:29 hours, a Dassault-Breguet Falcon 20 (Coast Guard designation HU-25 Guardian) aircraft from Coast Guard Air Station Miami was directed to depart for a search mission. Clearance was obtained from Havana ACC at 17:22 hours to enter the active danger areas, and the Falcon arrived on scene at about 17:42 hours to commence a visual search. The Falcon located two oil slicks, and at 17:55 hours deployed a data marker buoy at position 23 25.9N 082 25.8W. The Falcon also located possible debris below the surface, but was unable to identify these, due to fading daylight and their depth below the surface. The Falcon was subsequently joined by a Coast Guard Sikorsky HH-60 Jayhawk helicopter. A Coast Guard Lockheed C-130 Hercules aircraft and an Aerospatiale SA365 (Coast Guard designation HH-65 Dolphin) helicopter relieved the first two aircraft shortly after 20:00 hours; the C-130 Hercules continued the search throughout the night. The first Coast Guard vessel to arrive on scene, Coast Guard cutter *Nantucket*, participated in the "Bravo" searches. The assistance of a nearby sailing boat *Kin Loch* was obtained in the initial search efforts for approximately 6 hours. No debris were located; only large patches of sargasso were observed in the area of the sightings of possible debris.

1.15.2.3 On 25 February 1996 at 03:38 hours, the data marker buoy was in position 23 26.2N 082 11.5W, about 12 NM east of its initial position. Taking into account the average direction of drift (085°T) and drift speed (1.31 kt) of the data marker buoy, the search in the "Bravo" areas was adjusted and "Charlie" search areas (450 square miles) were designated further to the east. Coast Guard cutters *Manitou* and *Papaw* arrived on scene before 07:00 hours to participate in the search. Coast Guard cutter *Vigilant* joined them in the afternoon to complete the "Bravo" searches.

1.15.2.4 At 14:00 hours on 25 February 1996, it was believed that the data marker buoy had drifted into Cuban territorial waters, and permission was requested to enter the airspace above these waters to conduct search and rescue operations in the area of the buoy. At 14:45 hours authorization was received from the Cuban Border Patrol for a US Coast Guard aircraft to operate in the area inside 12 NM but no closer than 5 NM from the coast line. A C-130 Hercules was directed to search within a "Bravo" search area, inside Cuban territorial airspace, which it entered at about 16:32 hours. The C-130 Hercules was directed at 17:12 hours to leave the search area.

1.15.2.5 The data marker buoy was located four times by Coast Guard aircraft throughout the search. On 25 February 1996 at 16:00 hours, the buoy was last located in position 23 25.3N 082 05.1W, about 17NM east of its initial position. The average drift over 22 hours was 092°T at 0.9 kt. All "Bravo" and "Charlie" searches were completed by 18:00 hours on 26 February 1996, without any debris being recovered. The Coast Guard searches had covered over 2 500 square miles. A total of over 23 hours of on-scene air search had been conducted by the Falcon, the C-130 Hercules and two helicopters (HH-60 and HH-65) from 24 February 1996 until 18:12 hours on 25 February 1996. Four Coast Guard cutters (*Vigilant, Papaw, Nantucket* and *Manitou*) had participated in the search. The weather had been excellent throughout the searches, with north to northeasterly winds at 10 to 13 kt, wave height of 2 ft, unlimited visibility and no more than three-tenths cloud cover (scattered cloud). The probability of detection of a person in the water was estimated at over 85 per cent for the combined air and surface unit search. The search was suspended at 18:00 hours on 26 February 1996.

1.16 Additional information

1.16.1 The Convention on International Civil Aviation

1.16.1.1 Both Cuba and the United States are parties to the *Convention on International Civil Aviation* (Chicago, 7 December 1944). As of 31 May 1996, there were 184 parties to the Convention. The following provisions of the Convention are relevant to the consideration of the shooting down of the two aircraft on 24 February 1996:

Preambular paragraph 1:

"WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security;"

Article 1:

"*Sovereignty*
The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory."

Article 2:

"Territory
For the purposes of this Convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State."

Article 3:

"Civil and state aircraft
(a) This Convention shall be applicable only to civil aircraft, and shall not be applicable to state aircraft.

(b) Aircraft used in military, customs and police services shall be deemed to be state aircraft.

(c) No state aircraft of a contracting State shall fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.

(d) The contracting States undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft."

Article 4:

"Misuse of civil aviation
Each contracting State agrees not to use civil aviation for any purpose inconsistent with the aims of this Convention."

Article 5 (first paragraph):

"Right of non-scheduled flight
Each contracting State agrees that all aircraft of the other contracting States being aircraft not engaged in scheduled international air services shall have the right, subject to the observance of the terms of this Convention, to make flights into or in transit non-stop across its territory and to make stops for non-traffic purposes without the necessity of obtaining prior permission, and subject to the right of the State flown over to require landing. Each contracting State nevertheless reserves the right, for reasons of safety of flight, to require aircraft desiring to proceed over regions which are inaccessible or without adequate air navigation facilities to follow prescribed routes, or to obtain special permission for such flights."

Article 9:

Prohibited areas
(a) Each contracting State may, for reasons of military necessity or public safety, restrict or prohibit uniformly the aircraft of other States from flying over certain areas of its territory, provided that no distinction in this respect is made between the aircraft of the State whose territory is involved, engaged in international scheduled airline services, and

the aircraft of the other contracting States likewise engaged. Such prohibited areas shall be of reasonable extent and location so as not to interfere unnecessarily with air navigation. Descriptions of such prohibited areas in the territory of a contracting State, as well as any subsequent alterations therein, shall be communicated as soon as possible to the other contracting States and to the International Civil Aviation Organization.

(b) Each contracting State reserves also the right, in exceptional circumstances or during a period of emergency, or in the interest of public safety, and with immediate effect, temporarily, to restrict or prohibit flying over the whole or any part of its territory, on condition that such restriction or prohibition shall be applicable without distinction of nationality to aircraft of all other States.

(c) Each contracting State, under such regulations as it may prescribe, may require any aircraft entering the areas contemplated in subparagraphs (a) or (b) above to effect a landing as soon as practicable thereafter at some designated airport within its territory."

Article 11:

"*Applicability of air regulations*
Subject to the provisions of this Convention, the laws and regulations of a contracting State relating to the admission to or departure from its territory of aircraft engaged in international air navigation, or to the operation and navigation of such aircraft while within its territory, shall be applied to the aircraft of all contracting States without distinction as to nationality, and shall be complied with by such aircraft upon entering or departing from or while within the territory of that State."

Article 12:

"Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention. Over the high seas, the rules in force shall be those established under this Convention. Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable."

1.16.2 **Article 3 *bis* of the Convention on International Civil Aviation**

1.16.2.1 **Background information**

1.16.2.1.1 On 16 September 1983, the ICAO Council considered the destruction of Korean Air Lines flight KE 007 on 1 September 1983 by Soviet military aircraft, and adopted a resolution which reads in part:

"RECOGNIZING that such use of armed force against international civil aviation is incompatible with the norms governing international behaviour and elementary considerations of humanity and with the rules, Standards and Recommended Practices

enshrined in the Chicago Convention and its Annexes and invokes generally recognized legal consequences,

REAFFIRMING the principle that States, when intercepting civil aircraft, should not use weapons against them."

The 24th Session of the ICAO Assembly (20 September to 7 October 1983) endorsed that resolution.

1.16.2.1.2 The ICAO Council considered the report on the investigation of the same incident on 6 March 1984, and adopted a resolution which reads in part:

"REAFFIRMING that, whatever the circumstances which, according to the Secretary General's report, may have caused the aircraft to stray off its flight plan route, such use of armed force constitutes a violation of international law, and invokes generally recognized legal consequences;

RECOGNIZING that such use of armed force is a grave threat to the safety of international civil aviation, and is incompatible with the norms governing international behaviour and with the rules, Standards and Recommended Practices enshrined in the Chicago Convention and its Annexes and with elementary considerations of humanity;".

1.16.2.2 **Consideration of Article 3 *bis* by the ICAO Assembly (1984)**

1.16.2.2.1 The 25th Session (Extraordinary) of the Assembly (24 April to 10 May 1984) was held in Montreal to examine and adopt an amendment (Article 3 *bis*) to the Chicago Convention involving an undertaking to abstain from the use of force against civil aircraft. Opening the Session, the President of the Assembly stated:

"There may be some who believe that the prohibition of use of force against civil aircraft is already a firm part of general international law and that there is no need to codify that provision in the body of the Convention. ... Even in time of war, international law has explicit provisions for the protection of civilians in armed conflict, on the protection of the wounded and shipwrecked and on the protection of the prisoners of war. The International Court of Justice ruled, referring to customary international law, that these fundamentally humanitarian principles are more exacting in time of peace than they are in time of war. There is no doubt that these humanitarian principles concerning the protection of human life are deeply rooted in customary international law. ... A written rule of law is far superior to general principles recognized as customary law because frequently the very existence of a customary law or its exact scope and content may remain subject to challenge."

1.16.2.2.2 At the Assembly, the general and uncontroversial position taken was that there already existed as part of customary international law a prohibition against the use of force or weapons against civil aircraft in flight and that in cases of interception, the lives of persons on board and the safety of aircraft must not be endangered. This is reaffirmed in Article 3 *bis*, paragraph a).

1.16.2.2.3 Under paragraph a) of Article 3 *bis*, the protection is extended to civil aircraft of all States, not only contracting States. This wording was adopted since it was felt that the protection against the use of weapons against civil aircraft already existed in customary international law and did not rest

on a specific treaty rule to be applicable among parties only. The rights and obligations of States found in the Charter of the United Nations remain unaffected. Although a general formulation was adopted, the discussion in the Assembly focussed on the inherent right of self-defence under Article 51 of the Charter.

1.16.2.2.4 Similarly, paragraphs b) and c) of Article 3 *bis* were uncontroversial. Paragraph b) recognizes that every State is entitled to require the landing of "a civil aircraft flying above its territory without authority or if there are reasonable grounds to conclude that it is being used for any purpose inconsistent with the aims of this Convention; it may also give such aircraft any other instructions to put an end to such violations." To achieve this, contracting States may resort to any appropriate means consistent with international law, the Chicago Convention and paragraph a) of Article 3 *bis*. The wording of paragraph b), in which there is a recognition that every State (not only contracting States) has the right to require landing or to issue other instructions, indicates that this rule is reflective of existing (customary) international law. Under paragraph c), civil aircraft must comply with an order given in conformity with paragraph b).

1.16.2.2.5 The Assembly also recognized the need for a provision dealing with the misuse of civil aviation or the use of civil aircraft for any purpose inconsistent with the aims of the Chicago Convention. After debate, paragraph d) was formulated.

1.16.2.3 **Adoption of Article 3 *bis***

1.16.2.3.1 On 10 May 1984, the Assembly, attended by 107 contracting States including Cuba and the United States, unanimously adopted a *Protocol relating to an amendment to the Chicago Convention on International Civil Aviation* [Article 3 *bis*]. The Assembly also adopted by acclamation Resolution A25-2 in which it urges all Contracting States to ratify the Protocol as soon as practicable. The Protocol requires 102 ratifications for entry into force; as of 31 May 1996, 80 such instruments had been deposited and consequently, the Protocol had not entered into force. Neither Cuba nor the United States had ratified the Protocol.

1.16.2.3.2 The following preambular paragraphs of the Protocol are of relevance to the consideration of the shooting down of the two aircraft on 24 February 1996:

> THE ASSEMBLY OF THE INTERNATIONAL CIVIL AVIATION ORGANIZATION
>
> [para 2] "HAVING NOTED that international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to general security,"
>
> [para 5] "HAVING NOTED that in keeping with elementary considerations of humanity the safety and the lives of persons on board civil aircraft must be assured,"
>
> [para 6] "HAVING NOTED that in the Convention on International Civil Aviation done at Chicago on the seventh day of December 1944 the contracting States
>
> — recognize that every State has complete and exclusive sovereignty over the airspace above its territory,

— undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft, and

— agree not to use civil aviation for any purpose inconsistent with the aims of the Convention,"

[para 7] "HAVING NOTED the resolve of the contracting States to take appropriate measures designed to prevent the violation of other States' airspace and the use of civil aviation for purposes inconsistent with the aims of the Convention and to enhance further the safety of international civil aviation."

1.16.2.3.3. Article 3 *bis* reads as follows:

"Article 3 bis

(a) The contracting States recognize that every State must refrain from resorting to the use of weapons against civil aircraft in flight and that, in case of interception, the lives of persons on board and the safety of aircraft must not be endangered. This provision shall not be interpreted as modifying in any way the rights and obligations of States set forth in the Charter of the United Nations.

(b) The contracting States recognize that every State, in the exercise of its sovereignty, is entitled to require the landing at some designated airport of a civil aircraft flying above its territory without authority or if there are reasonable grounds to conclude that it is being used for any purpose inconsistent with the aims of this Convention; it may also give such aircraft any other instructions to put an end to such violations. For this purpose, the contracting States may resort to any appropriate means consistent with relevant rules of international law, including the relevant provisions of this Convention, specifically paragraph (a) of this Article. Each contracting State agrees to publish its regulations in force regarding the interception of civil aircraft.

(c) Every civil aircraft shall comply with an order given in conformity with paragraph (b) of this Article. To this end each contracting State shall establish all necessary provisions in its national laws or regulations to make such compliance mandatory for any civil aircraft registered in that State or operated by an operator who has his principal place of business or permanent residence in that State. Each contracting State shall make any violation of such applicable laws or regulations punishable by severe penalties and shall submit the case to its competent authorities in accordance with its laws or regulations.

(d) Each contracting State shall take appropriate measures to prohibit the deliberate use of any civil aircraft registered in that State or operated by an operator who has his principal place of business or permanent residence in that State for any purpose inconsistent with the aims of this Convention. This provision shall not affect paragraph (a) or derogate from paragraphs (b) and (c) of this Article."

1.16.2.4 **Subsequent developments related to Article 3 *bis***

1.16.2.4.1 Subsequent to the adoption of Article 3 *bis*, the Council on 13 and 14 July 1988 considered a request by the Islamic Republic of Iran concerning the shooting down, on 3 July 1988, of Iran Air flight IR 655; in its decision the Council "deplored the use of weapons against a civil aircraft" and "reaffirmed the fundamental principle that States must refrain from resorting to the use of weapons against civil aircraft; it also appealed to all States which have not yet done so to ratify, as soon as possible, the Protocol introducing Article 3 *bis* into the Convention on International Civil Aviation; ..."

1.16.2.4.2 On 7 December 1988, the Council, when considering the report on the investigation of the same incident, reaffirmed "the fundamental principle of general international law that States must refrain from resorting to the use of weapons against civil aircraft" and appealed urgently to all States which have not yet done so to ratify Article 3 *bis*. The Council also urged "all States to take all necessary action for the safety of navigation of civil aircraft, particularly by assuring effective co-ordination of civil and military activities;".

1.16.2.4.3 On 14 June 1993, the Council, when considering the report on the completion of the investigation of the Korean Air Lines (KE 007) incident, adopted a resolution in which it "*Appeals* again urgently to all Contracting States that have not yet done so to ratify, as soon as possible, the Protocol introducing Article 3 *bis* into the Convention on International Civil Aviation, which reaffirms the fundamental principle that States must refrain from resorting to the use of weapons against civil aircraft;". In the resolution, the Council also "*Urges* States to take all necessary measures to safeguard the safety of air navigation of civil aircraft, in compliance with the relevant rules, Standards and Recommended Practices enshrined in the Chicago Convention and its Annexes;".

1.16.2.4.4 Furthermore, the 31st Session of the Assembly adopted Resolution A31-15 which in its Appendix C urges all contracting States which so far have not done so to ratify those amendments to the Chicago Convention which are not yet in force, including the amendment introducing Article 3 *bis*.

1.16.3 **Interception procedures**

1.16.3.1 **ICAO interception procedures**

1.16.3.1.1 The ICAO Standards related to interception procedures are contained in Annex 2, paragraphs 3.8.1 and 3.8.2, as follows:

> "3.8.1 Interception of civil aircraft shall be governed by appropriate regulations and administrative directives issued by Contracting States in compliance with the Convention on International Civil Aviation, and in particular Article 3(d) under which Contracting States undertake, when issuing regulations for their State aircraft, to have due regard for the safety of navigation of civil aircraft. Accordingly, in drafting appropriate regulations and administrative directives due regard shall be had to the provisions of Appendix 1, Section 2 and Appendix 2, Section 1 [in Annex 2].
>
> *Note.— Recognizing that it is essential for the safety of flight that any visual signals employed in the event of an interception which should be undertaken only as a last resort be correctly employed and understood by civil and military aircraft throughout the world, the Council of the International Civil Aviation Organization, when adopting the visual signals in Appendix 1 to this Annex, urged Contracting States to ensure that they be*

strictly adhered to by their State aircraft. As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council has also formulated special recommendations which Contracting States are urged to apply in a uniform manner. These special recommendations are contained in Attachment A.

3.8.2 The pilot-in-command of a civil aircraft, when intercepted, shall comply with the Standards in Appendix 2, Sections 2 and 3, interpreting and responding to visual signals as specified in Appendix 1, Section 2 [in Annex 2]."

1.16.3.1.2 As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council of ICAO has formulated special recommendations which amplify paragraphs 3.8.1 and 3.8.2 in Annex 2. These special recommendations, as contained in Attachment A to Annex 2, include general recommendations that emphasize the principle that interception of civil aircraft should be avoided and should be undertaken only as a last resort. Some recommendations are aimed at eliminating or reducing the need for interception of civil aircraft, while others are made to ensure co-ordinated actions by the pilots and ground units concerned in order to eliminate or reduce the hazards inherent in interceptions undertaken as a last resort. Interception manoeuvres are addressed, including manoeuvres for visual identification and for navigational guidance. The recommendations further cover guidance of an intercepted aircraft, action by intercepted aircraft, air-to-air visual signals, radio communications with intercepted aircraft, the use of tracer bullets, and co-ordination between intercept control units and ATS units.

1.16.3.1.3 A consolidation of current ICAO provisions and special recommendations related to interception is contained in the ICAO *Manual Concerning Interception of Civil Aircraft* (Doc 9433). Further guidance material intended to promote effective civil/military co-ordination is contained in the ICAO *Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations* (Doc 9554).

1.16.3.2 **Cuban interception procedures**

1.16.3.2.1 The AIP Cuba (RAC 8-1) contains the interception procedures of civil aircraft. It states that:

"... interception will be carried out as a final recourse for aircraft identification in order to protect the sovereignty of the airspace of the Republic of Cuba, under the following circumstances:

a) When aircraft overflying the national territory and its territorial waters (ADIZ interior limit), without previous permit or when aircraft having not established communications immediately after break in the FIR/CTA (ADIZ exterior limit), for identification purposes.

b) When aircraft infringe restrictions of the airspace or when they do not go back on the flight plan received accordingly.

c) When it would be necessary to inquire into an aircraft identification."

1.16.3.2.2 The AIP Cuba also contains interception manoeuvres, manoeuvres for navigational guidance, guidance of an intercepted aircraft, action by intercepted aircraft, air-to-air visual signals and

radio communications between the intercept control unit or the intercepting aircraft and the intercepted aircraft, identical to the Standards and special recommendations as contained in Annex 2 to the *Convention on International Civil Aviation*.

2. ANALYSIS

2.1 Incursions into Cuban airspace prior to 24 February 1996

2.1.1 Incursions into Cuban airspace from 15 May 1994 to 4 April 1995

2.1.1.1 According to the authorities in Cuba, the following violations of Cuban airspace took place from 15 May 1994 to 4 April 1995:

— 15 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;

— 17 May 1994. Two Cessna 337 aircraft (registration N58BB and N108LS) coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;

— 25 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;

— 29 May 1994. Five aircraft coming from Florida violated Cuban airspace in the western region between Cárdenas, Matanzas Province, and El Mariel, Havana Province, between 15 and 80 miles along the shore, keeping a distance from the coast of between 1.5 and 5.5 miles;

— 10 July 1994. At 10:00 hours, the violation of Cuban airspace by an aircraft (registration N2506) coming from the United States was detected 20 km north of Guanabo, Havana Province. This aircraft violated an 18 km length of airspace to a depth of 3 km, leaving Cuban airspace to the north of the city of Havana at 10:30 hours;

— 10 November 1994. At 13:13 hours, two C337 aircraft, which took off at 12:40 hours from Guantánamo Naval Base, violated Cuban airspace, overflying the Punta de Maisí lighthouse. During this overflight, the light aircraft released 200 leaflets against the Cuban constitutional government; and

— 4 April 1995. Between 10:14 and 10:57 hours, a C337 aircraft violated Cuban airspace in areas to the north of the western region between Santa Fe and Guanabo, Havana Province, over a length of 5 miles, keeping a distance from the Cuban coast which varied between 5 and 10 miles.

2.1.1.2 By Diplomatic Note No. 908 dated 21 July 1994 to the Interests Section of the United States (Embassy of Switzerland), the Ministry of Foreign Affairs of Cuba informed the United States that aircraft operating out of airports in Florida had violated Cuban airspace on numerous occasions. These aircraft had also "made unlawful use of radio frequencies established for air traffic control and have interfered with the efforts to detect and control drug trafficking in the [FIR] of Cuba." The Ministry

stated that the flights "which have gone so far as to violate Cuban airspace, have taken place in the areas north of the western part of Cuba between Cárdenas in Matanzas province and Mariel in Havana province, along a trajectory of from 5 to 80 miles at distances from the Cuban coast of from 1.5 to 5.5 miles. The most recent examples are the flights on 17 May 1994, by two Cessna 337 planes, license numbers [registration] N58BB and N108LS. On 15, 25 and 29 May 1994, five aircraft committed similar violations. On 9 July 1994, an aircraft with license number [registration] N2506 carried out a flight of a similar sort. There is evidence of other violations on prior occasions." The Note further stated that on numerous occasions, aircraft had flown into active Cuban danger areas; specific information was provided on the dates of these incursions, the danger areas, aircraft model and registration. The Ministry demanded that the "U.S. authorities adopt the appropriate measures to put a stop to these practices."

2.1.1.3 By Diplomatic Note No. 1443 dated 18 November 1994, the Ministry of Foreign Affairs of Cuba informed the United States that on 10 November 1994 at 13:13 hours "two small C337 aircraft violated Cuban airspace by flying over the Punta de Maisí lighthouse after having taken off at 12:40 from the U.S. Naval Base in Guantánamo ...". The Note stated that these aircraft "dropped on Cuban territory approximately 200 flyers containing enemy propaganda belonging to the self-styled counter-revolutionary organization 'Brothers to the Rescue'." The Note identified these aircraft as "two of the three which arrived at the Naval Base ... on 7 November 1994 and their U.S. license numbers [registration] are as follows: N2506, N5485S and N2329S." The Ministry brought to the attention of the United States authorities the fact that there was still no concrete or effective response to Diplomatic Note No. 908. The Government of Cuba formally requested "the Government of the United States to act responsibly and to adopt permanent measures to put an end to the illegal and provocative activities that might have negative consequences and are not in the interest of either of our two countries."

2.1.1.4 When interviewed by the ICAO team in April 1996, Mr. Basulto stated that he had taken a group of attorneys to the Guantánamo Naval Base on 7 November 1994. On taking off on 10 November 1994 for his return flight he decided "on the spur of the moment" to fly over the place where he grew up in Cuba and "dropped some stickers over people looking up at the aircraft."

2.1.1.5 By Diplomatic Note No. 694 dated 25 May 1995, the Ministry of Foreign Affairs of Cuba protested to the United States "the violation of Cuban airspace by a small aircraft from the territory of the United States." The Note stated that on 4 April 1995, between 10:14 and 10:57 hours, a Cessna 337 aircraft violated Cuban airspace in areas north of the western part of Cuba between Santa Fe and Guanabo for five miles along the coast at a distance of 5 to 10 miles from the coast. The Ministry wanted to "make perfectly clear the worrisome danger of a situation that violates the sovereignty of Cuba and puts at risk air traffic in the area." The Ministry demanded that "the U.S. authorities adopt effective measures to put a stop to activities like the one described above."

2.1.1.6 The United States did not provide responses to Cuba to Diplomatic Notes No. 908 dated 21 July 1994, No. 1443 dated 18 November 1994 and No. 694 dated 25 May 1995 .

2.1.2 Incursions into Cuban airspace on 13 July 1995

2.1.2.1 By Diplomatic Note No. 882 dated 5 July 1995, the Ministry of Foreign Affairs of Cuba informed the United States that radio stations in the United States had "been broadcasting information about the organization of a flotilla of boats that intends to depart from ports in the United States territory and arrive at the 12 mile boundary which demarcates Cuban territorial waters, with the explicit purpose of carrying out provocative actions and defying the Cuban Government and people. According to ... 'Radio Martí' ..., one of the boats intends to ... approach the Cuban coast up to a 6 mile distance ...". The Ministry, *inter alia*, emphasized that "Cuban authorities will not tolerate the slightest violation of

the territorial integrity of Cuba and will not bear any liability for measures taken in legitimate defence of its sovereignty."

2.1.2.2 On 7 July 1995, the Department of State issued a statement, in which the United States government stated that it was "aware of preparations being made to dispatch a 'flotilla' of privately owned vessels from Florida to enter Cuban territorial waters in order to lay wreaths and hold commemorative ceremonies at the site of the sinking of the tug boat 'Trece de Marzo' on July 13, the first anniversary of that tragedy." The organizers had been advised of "the risks participants may be undertaking." Participants were warned that any attempt to pick up persons from Cuba "with the intention of transporting them to the United States or taking steps in violation of the Neutrality Act may result in prosecution or other law enforcement action in the United States. ...If the protestors proceed as their pamphlets indicate and sail into Cuban territorial waters, they may be violating Cuban law by having entered Cuban territory illegally and participants might therefore be subject to arrest by Cuban authorities." The statement continued: "The Cuban government has informed the Department of State that it is very concerned about the proposed action and that its normal practice is to detain those who enter Cuban territory without permission."

2.1.2.3 According to the authorities in Cuba, the following violation of Cuban airspace took place on 13 July 1995:

> Four aircraft from the United States (registrations N108LS, N2506, N5485S and N312MX) entered Cuban airspace to the north of the city of Havana, penetrated the MUP-1 prohibited area and overflew the city of Havana at a very low altitude in a dangerous and neglectful manner.

2.1.2.4 According to the authorities in Cuba, it was not by accident that the aircraft violated Cuban sovereignty; the Brothers to the Rescue group had publicly, openly and patently endeavoured, among other things, to provoke air incidents, violate Cuban territorial sovereignty, and ignore the regulations of the State in which their aircraft were registered. Furthermore, on 13 July 1995, photographs had been taken from these aircraft of central Havana. The photographs had been publicized and were available for sale in Miami.

2.1.2.5 The Cessna 337, nationality and registration marks N2506, was one of the aircraft which overflew the city of Havana on 13 July 1995. One of the occupants in N2506 on this flight was a reporter from NBC TV station channel 6 (then channel 4) in Miami. A video recording taken by the reporter on this flight and broadcast by NBC in Miami, showed a smoke marker drop in the sea north of Havana, and subsequently the aircraft over Havana well inside the coastline. The video recording broadcast by NBC contained the following reportage and interviews:

Reporter: "While the flotilla boats with exiles and journalists on board entered Cuban territorial waters, Brothers to the Rescue pilots were dropping smoke to mark the exact spot where the hijacked tugboat went down a year earlier."

Background voice: "Ok, drop smoke here"

Reporter: "They were not alone. Cuban fighter planes were in the area."

Reporter: "With the flotilla stalled, pilot José Basulto, just four miles off Cuba, made the decision he would fly over Havana, drop bumper stickers and religious medals. There was a

tense several moments over the Malacon. The pilot began the drop. The plane roared at rooftop level through downtown, banking towards Havana harbour.

Background voice: "...over Havana....flying in circles"

Reporter: "Traffic along the Malacon: light; typical for early afternoon, certainly a unique look at Havana."

Mr. Basulto: "This is an act of civil disobedience. We realize what we're doing and all we're doing is signalling out to the people of Cuba that civil disobedience is possible."

Reporter: "The Cuban government responded by saying: 'Any ship from abroad that forcibly invades our sovereign water will be sunk and any aircraft downed'."

Department of State spokesperson: "When you do enter the airspace or territorial waters or territory of another country you are subject to the law enforcement agencies of that country."

Reporter: "Today José Basulto explained his decision to buzz Havana."

Mr. Basulto: "At that point we decided to go into Havana to create a diversionary manoeuvre by which we might have relieved the pressure on the boats...".

2.1.2.6 When interviewed by the ICAO team in April 1996 regarding the events on 13 July 1995, Mr. Basulto stated that the purpose of the flights, together with a flotilla, was a religious ceremony intended as a memorial to forty people who died when a tug boat was sunk by Cuban patrol boats seven miles off the coast of Cuba a year earlier. The aircraft proceeded to the location and dropped a smoke marker to indicate the position. As the lead boat of the flotilla was rammed by Cuban patrol boats, he decided to fly over Havana to create a diversionary manoeuvre to relieve the pressure on the boat and to attract the attention of the Cuban military aircraft which was flying over the flotilla. He made two circles over Havana and dropped some flyers and a handful of religious medals.

2.1.2.7 In a public announcement dated 8 August 1995, the Department of State warned that entering Cuban territory, territorial waters or airspace without prior authorization from the Cuban government may cause one to be subject to arrest or other enforcement action by Cuban authorities for violation of Cuban law. Any vessel or aircraft "inside the 12-mile limit off Cuba would be inside Cuban territorial waters or airspace and thus subject to the jurisdiction of the Cuban government." The announcement stated that :

> "...under international agreement, Cuba provides air traffic control services up to the 25th (*sic*) [24th] parallel, an area well beyond its territorial jurisdiction. As required under the Convention on International Civil Aviation, to which the United States is a signatory, aircraft transiting another country's controlled airspace must follow established international rules of the air including positive communication with the providing air traffic service and submission of a flight plan."

The announcement continued:

> "In a public statement issued on July 14, the Cuban government asserted its 'firm determination' to take actions necessary to defend Cuban territorial sovereignty and to

prevent unauthorized incursions into Cuban territorial waters and airspace. The statement continued, 'Once more (the Cuban government) warns that any boat from abroad can be sunk and any airplane downed.' The Department takes this statement seriously.

...

If persons enter Cuban territorial waters or airspace without prior permission, they may place themselves and others at serious personal risk. ...

The Department of State urges all persons who wish to travel to Cuba or to enter Cuban territorial waters or airspace to do so using safe, orderly and legal means, and to avoid unnecessary risks to themselves and others."

2.1.2.8 By a Diplomatic Note dated 21 August 1995 to the Cuban Interests Section, the Department of State referred Cuba to the public announcement issued by the Department on 8 August 1995. The Department stated that it "takes very seriously the public statements of the Government of Cuba concerning unauthorized incursions into Cuba's territorial sea and airspace, to the effect that the Government of Cuba would not tolerate violations of Cuba's territorial integrity." The Department stated that it was aware of plans for a flotilla to approach Cuban territorial waters on 2 September 1995 and that, in addition to the public announcement, United States officials had spoken with the organizers and had "warned them of the potential consequences of entering Cuban territorial waters for purposes inconsistent with the international law of the sea. Further, the United States Coast Guard has issued a Notice to Mariners, and the [FAA] plans to issue a Notice to Airmen, both of which parallel and reinforce the warning contained in the Department's announcement of August 8."

2.1.2.9 A NOTAM was issued on 28 August 1995, which read in part:

"...due to significant air traffic associated with a water borne event in the Florida Straits, effective 1000 UTC September 2, 1995 until 0100 UTC September 3, 1995 the FAA recommends that aircraft operators avoid airspace within the following coordinates from 2430N 8500W to 2430N 7700W to 2400N 7700W to 2400N 8500W at and below FL 200. ...

In a public statement issued on 14 July 1995, the Government of Cuba asserted its firm determination to take actions against aircraft violations of Cuban airspace. These measures are aimed at defending and preserving Cuban national sovereignty and preventing overflight by unauthorized aircraft. It further states that any airplane may be downed for incursions into its airspace. Operators conducting flights to Cuba should be familiar with all Federal Aviation Regulations and all applicable international and Cuban laws, rules, and regulations concerning the operations. Operators entering Cuban airspace without authorization may be subject to arrest and may place themselves and others at serious personal risk."

2.1.2.10 By Diplomatic Note No. 1100 dated 21 August 1995, the Ministry of Foreign Affairs of Cuba forwarded to the United States a copy of a letter, also dated 21 August 1995, from the Vice-President of the Civil Aviation Institute of Cuba (IACC) to the FAA Administrator. The letter stated that on 13 July 1995 "several aircraft registered in the U.S., whose flight plans we attach, entered Cuban jurisdictional waters north of the City of Havana, entered the prohibited area MUP-1 and even flew over said city at very low altitude, acting dangerously and carelessly." The letter continued:

"In Appendix A ... we attach documents which prove the above-mentioned facts, which we specify ...:

1. Photocopies of the flight plans (FPL) of aircraft N108LS; N2506; N5485S; N312MX.

2. Photocopy of the video-radar reproduction taken on July 13, 1995 at 18:51 UTC which shows the circled position over the City of Havana of aircraft N108LS and N2506, whose codes SSR 1207 and 1210 match the ones in the respective flight plans (FPL).

3. That same video-radar reproduction shows the position of aircraft N5485S and N312MX north of the City of Havana but beyond Cuban jurisdictional waters.

In all cases, the aircraft flew off the path described in their flight plans, ignoring the warnings issued by the air traffic control offices not to enter dangerous zones or fly over Cuban territory.

...

I beg you to take the actions that your administration deems convenient to prevent such actions from reoccurring. ...According to information published in some United States media, ultra-rightist, anti-Cuban organizations established in the U.S. intend to carry out new action in violation of our laws on September 2, 1995, this time in the area of Varadero beach, using air and naval means of transportation.

...

The Government of the Republic of Cuba on July 14, 1995 issued a public statement declaring its 'firm determination to take all the necessary steps to prevent provocative actions' and clearly warned that 'any vessel coming from abroad and invading by force our sovereign waters may be sunk and any aircraft may be shot down.'

In the face of this situation, we call on your Administration to take all the necessary measures to prevent this publicized provocation to Cuban sovereignty from happening, in view of the unpredictable outcome this action may have."

2.1.2.11 By letter dated 29 August 1995, the FAA Administrator responded to the Cuban letter dated 21 August 1995, stating that the FAA took seriously any violations of FARs and international standards, and continued:

"Regarding the July 13 incident, the FAA Miami Flight Standards District Office has initiated a formal investigation of the event. Evidence is being gathered to substantiate the alleged overflight of Cuban airspace. If the evidence proves conclusively that FARs were violated, an enforcement action will be taken against the pilot in command. The information you have provided will be included in our investigation.

With respect to press reports that similar activities may occur on September 2, 1995, the FAA has issued a [NOTAM] recommending that all pilots avoid airspace within the coordinates of 2430N 8500W to 2430N 7700W to 2400N 7700W to 2400N 8500W at

and below 20,000 feet. The Notam further advises pilots to follow all applicable U.S. and international regulations for transiting another country's airspace."

2.1.2.12 In response to the Cuban Diplomatic Note No. 1100, the Department of State by Note to Cuba dated 28 August 1995, acknowledged that IACC had provided to FAA "information regarding the alleged unauthorized incursion of July 13, 1995 into Cuban airspace of aircraft originating in the United States." The Diplomatic Note continued:

> "The FAA is investigating possible violations of Annex 2 to the [Chicago] Convention by the pilot involved, with a view to taking appropriate enforcement actions. ...
>
> The Department reiterates that the Government of the United States neither sanctions nor encourages, nor is it indifferent to, the type of activity planned by organizers of the 'flotilla' when it violates either U.S., Cuban or international law. The Department will release this week a public statement paralleling its travel warning of August 8. A United States Coast Guard Notice to Mariners has been widely disseminated, and the Federal Aviation Administration will issue a Notice to Airmen this week, both of which parallel and reinforce the warning contained in the Department's public announcements.
>
> The Government of the United States recognizes the right of peaceful protest. U.S. officials have, however, advised organizers of the 'flotilla' of the potential consequences of entering Cuban territorial seas for purposes inconsistent with the international law of the sea and have urged them not to do so. ...
>
> The Government of the United States ... once again urges the Government of Cuba, in accordance with international legal principles concerning the use of force and the law of the sea, to exercise the utmost discretion and restraint and to avoid the use of excessive force in responding to the planned flotilla of private vessels and aircraft to ensure the safety of life."

2.1.2.13 The Department of State issued a public statement on 29 August 1995 which made reference to the announcement of 8 August 1995 and the Cuban public statement of 14 July 1995. It reiterated that "Persons entering Cuban territorial waters or airspace without permission may place themselves and others at serious personal risk."

2.1.2.14 By Diplomatic Note dated 30 August 1995, the Department of State informed Cuba that in relation to the flotilla and aircraft planning to approach Cuban territorial seas and airspace on 2 September 1995, a public statement had been released on 29 August 1995, and that FAA had issued a NOTAM on 28 August 1995. The Diplomatic Note further stated:

> "The Government of the United States has taken all appropriate steps to enforce U.S. laws and regulations and will continue to do so. The Government of the United States recognizes the right of peaceful protest. United States Government officials have, however, advised organizers of the 'flotilla' of the potential consequences of entering Cuban territorial seas or airspace without authorization and have urged them not to do so."

2.1.2.15 The flotilla departed on 2 September 1995, but due to unfavourable weather conditions turned back in the early stages of its journey and returned to port. Hence, the aircraft that were planned to accompany the flotilla did not take off.

2.1.2.16 By Diplomatic Note dated 5 October 1995, the Department of State informed Cuba:

> "The FAA is charging José Basulto, a leader of the Brothers to the Rescue Group, with violating Federal Aviation Regulation (FAR) 91.703, operating a U.S.-registered aircraft within a foreign country in non-compliance with the regulations of that country; and FAR 91.13, operating an aircraft in a careless or reckless manner...".

The Diplomatic Note stated that these charges resulted from Mr. Basulto's flight on 13 July 1995 into Cuban airspace without permission from the Government of Cuba. A request was made to the Government of Cuba for any evidence that might be relevant to the charges, such as statements provided by Cuban air traffic controllers who observed the flight into Cuban airspace, or any other data to that effect. A request was also made for copies of "the Cuban regulations allegedly violated by Basulto."

2.1.2.17 By Diplomatic Note dated 18 October 1995, the Department of State informed Cuba of plans announced by organizations and individuals for a flotilla to approach Cuban territorial waters, perhaps accompanied by private aircraft, on 21 October 1995; the organizers had stated that they intended "to transmit shortwave radio and television signals into Cuba from vessels positioned outside Cuba's territorial waters for a period of approximately one half hour." The Department further informed Cuba that "the Government of the United States neither sanctions nor encourages, nor is it indifferent to, this type of activity... if it violates U.S. or international law." It advised that the Department would be releasing a public statement, that the Coast Guard would disseminate a Notice to Mariners and FAA would issue a NOTAM. The Government of the United States urged the Government of Cuba to exercise the utmost discretion and restraint and to avoid the use of excessive force in responding to the planned flotilla of private vessels and aircraft to ensure the safety of life.

2.1.2.18 The flotilla event planned for 21 October 1995 was subsequently cancelled due to unfavourable weather conditions.

2.1.2.19 On 3 November 1995, the Government of Cuba provided evidence related to the 13 July 1995 incursion in response to the Diplomatic Note from the United States dated 5 October 1995. The documents were sent through the United States Interests Section, and were passed on to FSDO, FAA in Miami. On 28 November 1995, the Department of State inquired whether the FAA office of International Aviation (AIA) had received the evidence from the Government of Cuba. The FAA AIA traced the documents, and received them from Miami FSDO on 1 December 1995.

2.1.3 Incursions into Cuban airspace on 9 and 13 January 1996

2.1.3.1 According to the authorities in Cuba, the following violations of Cuban airspace took place on 9 and 13 January 1996:

> The Cuban authorities detected two light aircraft coming from Opa Locka Airport in Florida, which overflew the territory of the Havana Provinces and released subversive propaganda, encouraging actions against the Cuban constitutional order.

2.1.3.2 According to the authorities in Cuba, leaflets were scattered not only over Havana, but covered all of the territory of Havana province. They added that Mr. Basulto had publicly stated that half a million leaflets had been dropped on 13 January 1996.

2.1.3.3 When interviewed by the ICAO team in April 1996 regarding the flights on 9 and 13 January 1996, Mr. Basulto said:

> We had done calculations and experiments with leaflets. They were carried with the wind and sank 2.6 ft per second. We had been waiting for a suitable wind for three months, so that we could drop the leaflets over international waters and the wind would carry them over Havana. The wind conditions on 9 and 13 January 1996 made the drops possible. On 9 January we conducted an experiment, and on 13 January we dropped half a million leaflets very successfully. The drop was made over international waters and the wind carried them almost all over Havana. On 13 January 1946 the first draft of the Universal Declaration of Human Rights was presented to the United Nations by Cuba. The leaflets quoted excerpts from the Universal Declaration of Human Rights. Fifty years later we returned the declarations to Cuba.

2.1.3.4 By Diplomatic Note No. 45 dated 16 January 1996, the Ministry of Foreign Affairs of Cuba transmitted to the United States "its concern over the serious situation that has been created in the airspace of the Republic of Cuba by aircraft from the territory of the United States of America." The Diplomatic Note stated that Cuban authorities had "detected that two light aircraft from Opa Locka Airport... penetrated Cuban airspace on 9 and 13 January 1996 and flew over the territory of Havana's provinces dropping flyers of a subversive character in which they incited people to take action against the constitutional law and order of Cuba." The Ministry further stated that, by earlier diplomatic notes, it had informed the United States of "the occurrence of incidents of similar violations of Cuban airspace." The Diplomatic Note continued:

> "The Government of the Republic of Cuba recognizes that the relevant U.S. authorities have adopted measures to discourage acts of an aggressive and terrorist nature towards Cuba. Nevertheless, the recent serious incidents ... demonstrate clearly that the measures taken are not strong enough to obviate the risk of dangerous acts whose perpetrators come from the United States.
>
> For this reason the Government of the Republic of Cuba must demand of the Government of the United States of America that it adopt all additional measures necessary for the immediate halt of incidents of the kind that occurred on 9 and 13 January 1996."

2.1.3.5 The Department of State responded by Diplomatic Note dated 19 January 1996. It referred to the incidents of 9 and 13 January and stated that, as previously communicated, "the Government of the United States neither sanctions, nor encourages, nor is it indifferent to, this type of activity when it violates either U.S., Cuban or international law. The Government of the United States has consistently discouraged such activity, and has issued several public statements warning of the potentially serious consequences of entering Cuban territorial waters or airspace without prior authorization from the Government of Cuba." The Diplomatic Note stated further:

> "The ... (FAA) has been informed of and is compiling data related to these reported incidents. On behalf of the FAA, the Department of State requests from the Government of Cuba any evidence or identifying data that might be relevant to the case, such as statements provided by Cuban air traffic controllers or others who observed the flights into Cuban airspace, or any other data to that effect.
>
> The FAA would also like to obtain copies of the Cuban regulations allegedly violated by the pilots upon their unauthorized entry into Cuban airspace. ..."

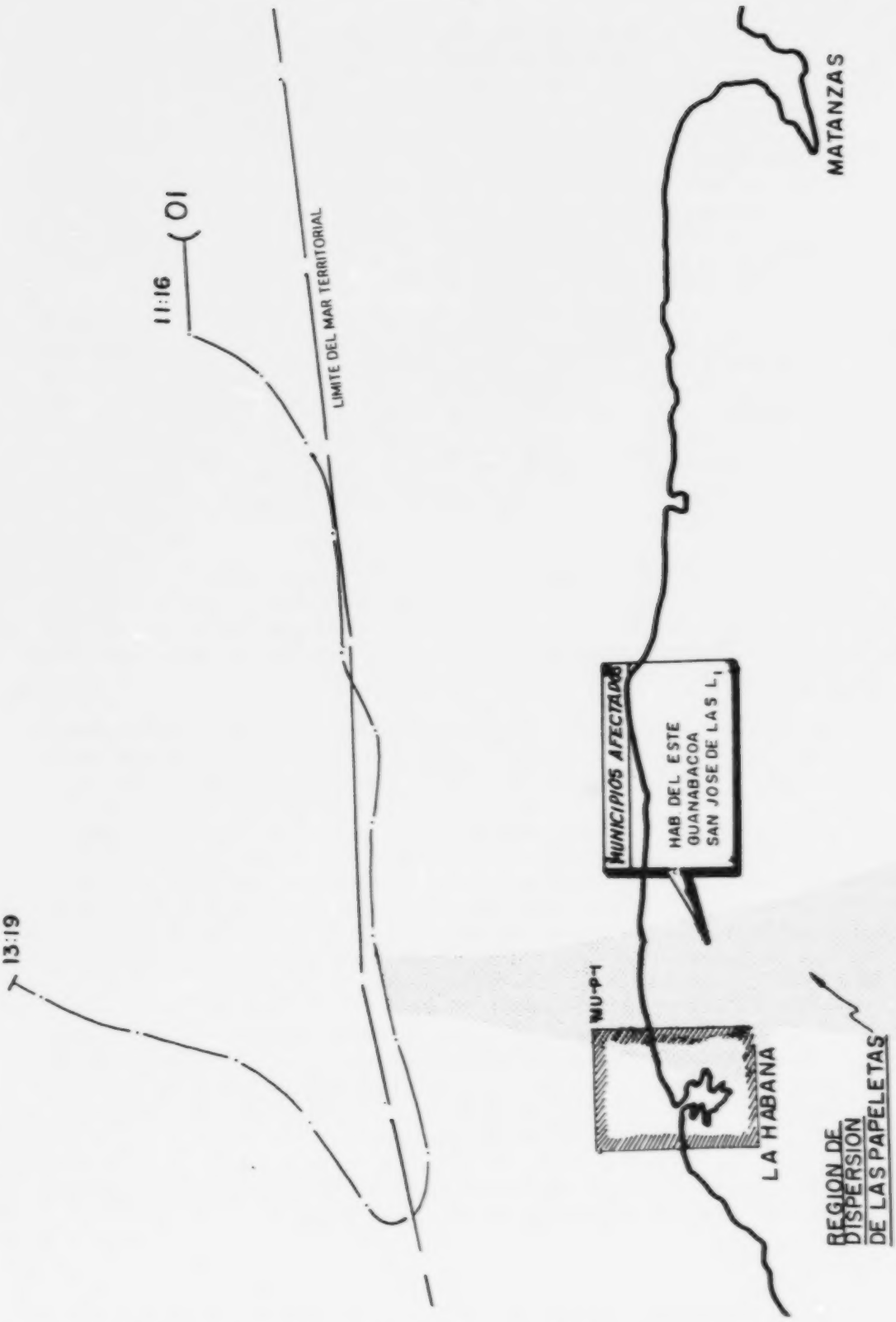


Chart 8 - The dispersal of leaflets on 9 January 1996 as reported by Cuba

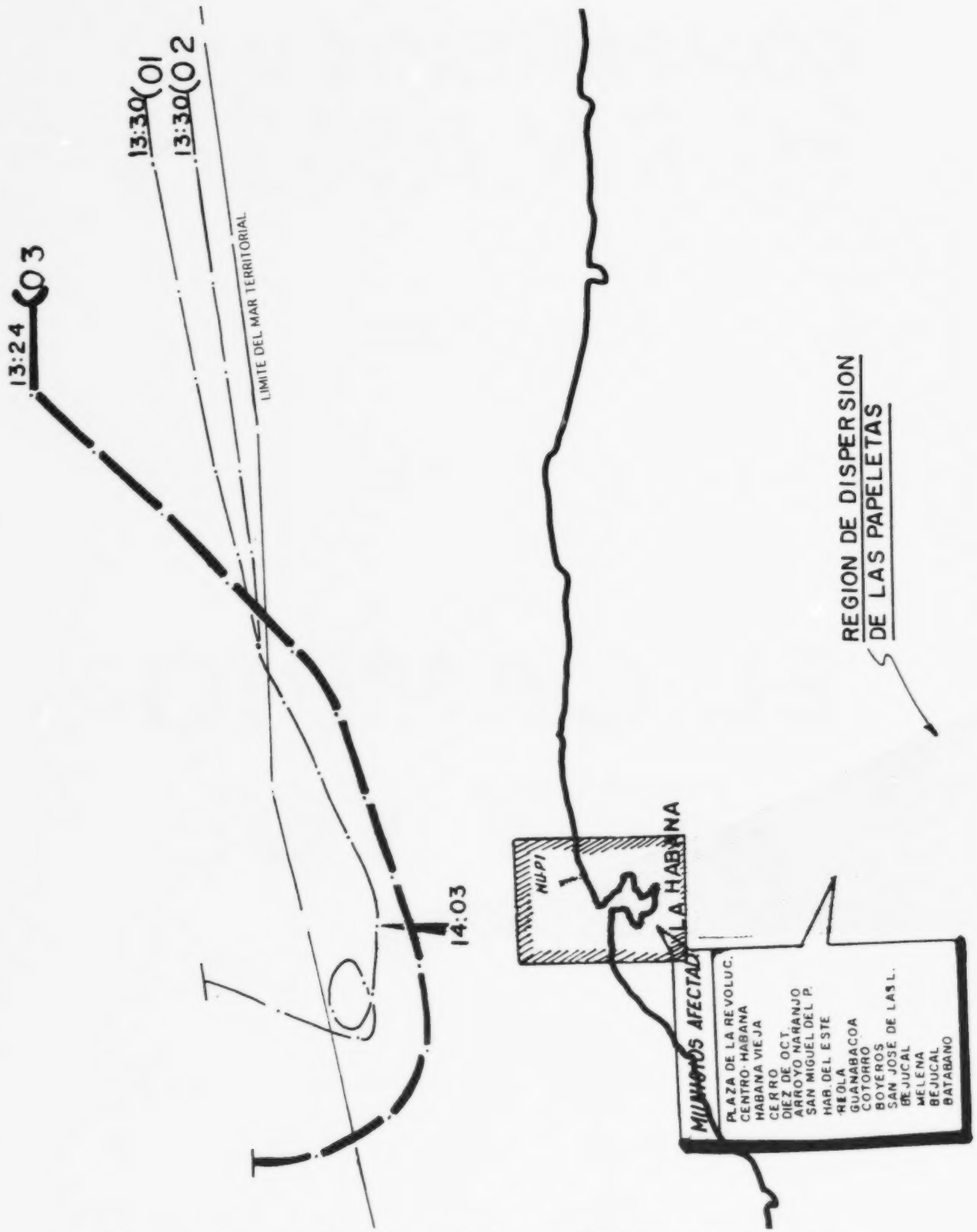


Chart 9 - The dispersal of leaflets on 13 January 1996 as reported by Cuba

COMPAÑEROS ¡NO! HERMANOS

Este es uno de los 30 Articulos de la *Declaración Universal de los Derechos del Hombre* de la cual Cuba es signataria (Naciones Unidas).

Articulo 19

Todo individuo tiene derecho a la libertad de opinión y de expresión; este derecho incluye el de no ser molestado a causa de sus opiniones, el de investigar y recibir informaciones y opiniones y el de difundirlas, sin limitaciones de fronteras, por cualquier medio de expresión.

Cubano lucha por tus derechos!

EL CAMBIO ¡SOY YO!

Este es uno de los 30 Articulos de la *Declaración Universal de los Derechos del Hombre* de la cual Cuba es signataria (Naciones Unidas).

Articulo 11

1. Toda persona acusada de delito tiene derecho a que se presuma su inocencia mientras no se pruebe su culpabilidad conforme a la ley y en juicio publico en el que se le hayan asegurado todas las garantias necesarias para su defensa.

2. Nadie será condenado por actos u omisiones que en el momento de cometerse no fueron delictivos según el Derecho nacional o internacional. Tampoco se impondra pena mas grave que la aplicable en el momento de la comisión del delito.

Cubano lucha por tus derechos!

Chart 10 - Samples of the leaflets dispersed on 9 and 13 January 1996

2.1.3.6 In response, the Ministry of Foreign Affairs of Cuba, by Diplomatic Note dated 31 January 1996, forwarded a letter dated 15 January 1996 from the President of the IACC to the FAA Administrator with the following evidence attached:

> "1. Photocopies of Flight Plans (FPL) of aircraft N108LS and N2506.
>
> 2. Photocopy of reproduction of the video-radar obtained on 13th of January, 1996, at 18:30 UTC where it can be appreciated, close in a circle, the location within the Cuban airspace of aircraft N2506 and N108LS, whose codes SSR 1222 and SSR 1223 correspond the notified respective Flight Plans (FPL).
>
> 3. Transcription of the communications of aircraft N2506 and N108LS with Havana ATC through the commercial aircraft AAL975."

The letter continued that on 15 January 1996, the Government of Cuba had issued a public declaration giving notice that:

> "...Cuba has the necessary measures to guarantee integrity of the national territory, in this way how to interrupt flights not authorized in their airspace, because violators should also be prepared to face the consequences.
>
> Before this situation, we appeal again to this administration to adopt necessary measures to prevent occurrence of this nature to be repeated."

2.1.3.7 By Diplomatic Note dated 20 February 1996, the Department of State informed Cuba that the FAA was continuing its investigation of Mr. Basulto, who was charged with violating FARs 91.703 and 91.13, resulting from "Mr. Basulto's alleged flight on July 13, 1995 ... into Cuban airspace without permission from the Government of Cuba." Expressing the appreciation of the FAA for the information provided by Cuba, the Department conveyed a request from the FAA for certain additional information.

2.1.4 **Summary of the situation in Cuba prior to 24 February 1996**

2.1.4.1 The Cuban authorities stated that as a result of the repeated violations of their airspace, they had been forced to close temporarily the international Girón corridor to civil aircraft and to restrict entry to and departure from Varadero International Airport. They further stated that on numerous occasions, the incursions into Cuban airspace had taken place in danger areas, activated and duly promulgated in accordance with international standards.

2.1.4.2 According to IACC, the overflight of Havana on 13 July 1995 was a key event leading to the events on 24 February 1996. The co-operation between IACC and FAA had been good, and according to IACC there was a certain trust in the FAA and that the FAA Administrator would resolve the situation. However, IACC alleged that the FAA enforcement actions against the Brothers to the Rescue and individual pilots were being deliberately delayed in the later part of 1995.

2.1.4.3 According to the Commander of the Anti-Aircraft Defence and the Air Force of Cuba, the overflight of Havana on 13 July 1995 was humiliating to Cuba, the Cuban people and the Air Force. He stated that the Anti-Aircraft Defence could have been much more assertive on 13 July 1995, but that the Cuban leadership thought that it was possible for the United States government to resolve the situation; that after the events of 9 and 13 January 1996 it was realized that control of the Brothers to the Rescue organization was beyond the United States government. He stated that a few days after the event

on 13 January 1996, he was instructed that violations of Cuban territorial airspace should no longer be tolerated, and that he was authorized, if such a situation arose again, to decide personally on military interception and shooting-down, if so required.

2.2 Developments in the United States on 23 February 1996

2.2.1 According to authorities in the United States, the "Concilio Cubano, an umbrella human rights organization in Cuba" had been denied permission by the Cuban government to hold a public meeting planned for 24 February 1996; the Brothers to the Rescue had publicly stated their support for the Concilio Cubano and had filed an application with the Department of Treasury for a licence to send financial assistance to the group.

2.2.2 In the early afternoon of 23 February 1996, the Department of State's Office of Cuban Affairs contacted the FAA's Office of International Aviation (FAA/AIA), to indicate that "because of crackdown against dissidents in Havana the BTTR [Brothers to the Rescue] might attempt a flight to demonstrate solidarity with dissidents and in defiance of the Cuban government during the following day(s)." The Department of State also indicated that "information suggests that the Cubans are in a 'rough mood'."

2.2.3 The FAA/AIA then sent, at 14:40 hours on 23 February 1996, a message via electronic mail to FSDO, FAA in Miami and to FAA Headquarters, as follows:

> "... The Government of Cuba's crackdown on dissidents has resulted in a number of arrests (in Havana) and the cancellation of a meeting that was to have been convened by the umbrella dissident organization 'Concilio Cubano' tomorrow.
>
> We have received a call from the State Department indicating that since Brothers to the Rescue (BTR) and its leader Basulto support and endorse the Concilio Cubano, it would not be unlikely that the BTR attempted an unauthorized flight into Cuban airspace tomorrow, in defiance of the GOC and its policies against dissidents. State Department cannot confirm that this will happen and is in touch with local law enforcement agencies to better determine what is the situation. I've reiterated to State that the FAA cannot PREVENT flights such as this potential one, but that we'll alert our folks in case it happens and we'll document it (as best we can) for compliance/enforcement purposes.
>
> State has also indicated that the GOC would be less likely to show restraint (in an unauthorized flight scenario) this time around ..."

FSDO was requested to convey the above message to the military liaison officer at Miami ARTCC.

2.2.4 The military liaison officer received this message at 18:00 hours. He then briefed the Miami ARTCC shift supervisor and military liaison officer on duty of the "potential activity for the following day." According to the authorities in the United States: "The specifics of the briefing were that the Miami AIFSS and Opa Locka Tower were to be advised to co-ordinate all flight plans and departure time information with the Watch Supervisor; the Watch Supervisor and/or the Military Liaison Specialist were to track the Brothers to the Rescue transponder codes as long as possible, take detailed notes and advise other facilities (DAICC, NORAD, etc.) of the activity." The military liaison officer then called DAICC (Customs facility in California) supervisor, briefed him on the potential Brothers to the Rescue activity and requested their assistance. Furthermore, the manager of FSDO in Miami requested that the B94 aerostat radar balloon at Cudjoe Key, Florida, to be "put up".

2.3 Events on 24 February 1996

2.3.1 Situation in Cuba on 24 February 1996

2.3.1.1. According to the Commander of the Anti-Aircraft Defence and the Air Force of Cuba, 24 February 1996 was a special day, the one hundred and first anniversary of the Cuban War of Independence. There were carnivals and several other large public activities in Havana. The Brothers to the Rescue group had announced support for counter-revolutionary activities, and hence the Commander went to the command centre. At about 09:40 hours flight plan messages were received for flights by the Brothers to the Rescue aircraft. From 10:16 hours three unidentified aircraft violated at various moments Cuban territorial airspace and activated danger areas. No SSR transponder codes were seen on radar for these aircraft. The Commander further stated that he ordered military interceptor aircraft to take-off and to persuade the unidentified aircraft to withdraw, and that when the unidentified aircraft saw the MiGs, they withdrew. Two MiGs stayed north of Havana until the unidentified aircraft retired to the north, and the MiGs returned to base at 11:30 hours. By noon, three new flight plan messages for flights by the Brothers to the Rescue aircraft were received, and the Commander decided to stay in the command centre.

2.3.1.2 According to the authorities in the United States, their radar did not record any Cuban military aircraft activity, nor any unidentified aircraft, north of Havana between 10:12 and 11:30 hours. According to the authorities in the United States, they had no evidence that any Brothers to the Rescue aircraft departed from the United States in the morning of 24 February 1996. The Brothers to the Rescue confirmed that they had no flights that morning. However, United States radar recorded Cuban military aircraft activity north of Havana between 12:15 and 12:45 hours. According to the authorities in Cuba, no such activity took place at that time.

2.3.2 Situation in the United States on 24 February 1996

2.3.2.1 According to the authorities in the United States, the Office of Cuban Affairs at the Department of State requested, through the FAA Operations Center, Washington, D.C., Miami ARTCC and Miami AIFSS, information on the departure of Brothers to the Rescue aircraft. Opa Locka TWR confirmed to Miami AIFSS at 13:08 hours that three Brothers to the Rescue aircraft had taxied out for departure, and confirmed to Miami ARTCC at 13:15 hours that the three aircraft had departed and were just north of the airport. Opa Locka TWR was requested to inform Miami ARTCC if any additional Brothers to the Rescue aircraft departed. In addition, other agencies, including Customs had been notified. According to the authorities in the United States, any incursions into Cuban airspace were to be documented for compliance/enforcement purposes.

2.3.3 The flights of N2456S, N5485S and N2506

2.3.3.1 General

2.3.3.1.1 The movements of N2456S, N5485S and N2506, from 14:50 to 15:46 hours on 24 February 1996, were assessed from the following records: radar data provided by Cuba, in the form of plots from four air defence radar stations and an integrated plot; CARIBROC, NORAD's SEAD sector and Miami ARTCC radar data provided by the United States; recordings of the Cuban military radio communications provided by Cuba and the United States; recordings of radio communications provided by Havana ACC and Miami AIFSS; recordings of radio communications between the Cessnas, other civil radio communications and the intercom onboard N2506; statements by eyewitnesses, particularly from

the *Majesty of the Seas* and the *Tri-Liner*; statements by the Cuban military pilots involved; and statements by the occupants of N2506.

2.3.3.1.2 Prior to 15:00 hours the Cessna aircraft were north of the 24N parallel and heading west. All three Cessnas called Havana ACC, reported that they were about to enter the Havana FIR and gave their transponder codes.

2.3.3.2 **The flight of N2456S**

2.3.3.2.1 At 14:57 hours N2456S called Havana ACC and reported crossing the 24N parallel in 5 minutes. The Cuban air defence radar data showed that at 15:00 hours N2456S was already south of the 24N parallel, within the MUD-9 danger area, at position 23 41N 082 07W; N2456S continued south from that position, entered Cuban territorial airspace at 15:07 hours, and turned southwest. The United States radar data showed that N2456S crossed the 24N parallel at approximately 15:00 hours and headed south, between 082 20W and 082 40W, through the MUD-8 and MUD-9 danger areas towards the city of Havana.

2.3.3.2.2 At 15:17 hours N2456S had an exchange with N2506 about a "boat" ahead of N2506 which N2506 then reported overflying. There was no further radio communication recorded between N2456S and either Havana ACC or the other Cessnas.

2.3.3.2.3 The Cuban radar data showed that N2456S continued in a southwesterly direction until it was shot down at about 15:21 hours. The United States radar data showed that N2456S reached a southernmost point at 15:19 hours at 23 22.2N 082 30.0W (about 2 NM outside Cuban territorial airspace), with the Mode C altitude response indicating 1 500 ft. This position was 12.8 NM south of the planned easterly search track (23 35N) of that aircraft.

2.3.3.2.4 At approximately 15:18 hours the Cuban MiG-29 was attempting to identify a small aircraft, which it had had in sight for about a minute and which the military ground control had indicated as being 25km (13 NM) north of Santa Fe. The MiG-29 pilot reported that the colour was white and blue and that he was going to give it a warning pass. According to the radio communications record provided by the United States, the pilot also reported that there were some vessels in the area. When interviewed by the ICAO team, the MiG-29 pilot was specific about his warning manoeuvre and stated that the Cessna took no notice but continued towards Havana at an altitude of 270 m. He described the warning manoeuvre as a "combat turn"; he approached close on the left side of the Cessna and turned sharply to the right, above and ahead of it. Authorization to the MiG-29 pilot to destroy the Cessna was given by the military ground control at 15:19 hours and repeated several times. At 15:20 hours the MiG-29 pilot reported a missile locked-on and that the small aircraft was a Cessna 337. The MiG-29 pilot launched a missile from a position on the right quarter at a range of 2 to 2.5 km.

2.3.3.2.5 There was no record in the radio communications between the Cessnas that the pilot of N2456S had reported seeing a MiG, nor that a MiG had manoeuvred close to N2456S. It was reasonable to expect that such an encounter would have been reported to the other Cessnas. The tape recorder in N2506 was recording at that time.

2.3.3.2.6 The United States radar data showed that N2456S moved north from its southernmost position and continued north at an altitude of 1 500 ft, until destroyed at position 23 25.8N 082 25.6W at 15:22 hours. It was not possible to determine the movements of the MiG-29 from the United States radar data other than an initial approach from the west immediately prior to the shoot-down.

2.3.3.2.7 The Cuban authorities provided a time and position for the shoot-down of N2456S of about 15:21 hours at 23 09.4N 082 32.6W, 5 NM north of Baracoa. The United States authorities provided a time and position for the shoot-down of N2456S of 15:22 hours at 23 25.8N 082 25.6W, 5 NM outside Cuban territorial airspace.

2.3.3.2.8 The shoot-down of N2456S was observed by the crew of the fishing boat *Tri-Liner* to have occurred almost overhead their boat. The shoot-down was observed by the crew of the cruise ship *Majesty of the Seas* at 15:23 hours on a bearing of 115°T at a range of 6 to 7 NM, near a boat that they were monitoring. The position of the cruise ship at 15:23 hours was 23 30.9N 082 35.1W; plotting the bearing and distance observed gave a position for the shoot-down of N2456S at 23 29N 082 28W, 8.7 NM outside Cuban territorial airspace.

2.3.3.2.9 According to the transcript of military radio communications provided by the United States, the pilot of the MiG-29, immediately after calling the military ground control to mark his position as the position of the shoot-down, reported that there was a "lancha" (*launch*) near the impact site.

2.3.3.2.10 The occupants of both N2506 and N5485S saw smoke and a "flare" and were aware of MiGs in the area. The occupants of both Cessnas tried repeatedly to contact N2456S.

2.3.3.3 **The flight of N5485S**

2.3.3.3.1 At 14:56 hours N5485S called Havana ACC and reported crossing the 24N parallel with the intention of remaining in the area for 5 hours. N5485S crossed the 24N parallel heading south, between 082 20W and 082 40W, at approximately 15:00 hours. This heading put the aircraft on a course towards the city of Havana, through the MUD-8 and MUD-9 danger areas. SSR Mode C responses recorded by United States radar indicated that N5485S was at an altitude of 1 100 ft.

2.3.3.3.2 At 15:18 hours N5485S called N2506, reported that he had reached 23 28N 082 29W and asked if he should wait in that position. At 15:19 hours N5485S reported that he was going to stay around 082 30W, but did not give a latitude. The Cuban radar record showed that N5485S reached its southernmost point at 15:21 hours, approximately 4 NM north of Havana. The United States radar data showed N5485S at its southernmost point at 23 25.1N 082 29.7W at 15:17 hours, 4.5 NM outside Cuban territorial airspace and 4.9 NM south of its intended eastbound search track (23 30N).

2.3.3.3.3 The United States radar data showed that at the time N2456S was shot down N5485S was about 3 NM to the north of N2456S, and heading south. N5485S then moved to the north and was seen circling close to the *Majesty of the Seas* and the *Tri-Liner*. SSR Mode C responses indicated that N5485S was at an altitude of about 100 ft.

2.3.3.3.4 At 15:23 hours the pilot of the MiG-29 reported that he had another small aircraft in sight and at 15:24 hours he reported that it was heading 090°. At 15:25 hours the MiG-29 was authorized to destroy the second aircraft. When interviewed by the ICAO team, the MiG-29 pilot stated that he had made a warning pass on the second aircraft, in the same manner as for the first aircraft, and that the pilot took no notice but continued his flight towards Havana. The MiG-29 then turned behind N5485S and fired a missile from a position on the right rear quarter of the Cessna.

2.3.3.3.5 The pilot of N5485S had reported seeing MiGs and a "flare" and smoke (from the destruction of N2456S). There is no record of his reporting a warning pass by a MiG on his aircraft. Again, it was reasonable to expect that such an encounter would have been reported to N2506. There

was a record of several exchanges between N5485S and N2506 in the few minutes prior to the shoot-down of N5485S, as well as many attempts to contact N2456S.

2.3.3.3.6 The Cuban authorities provided a time and position for the shoot-down of N5485S of 15:25 to 15:27 hours at 23 11.0N 082 34.1W, 6 NM north of Havana. The United States authorities provided a time and position for the shoot-down of N5485S of 15:28 hours at 23 30.2N 082 27.1W, 10 NM outside Cuban territorial airspace.

2.3.3.3.7 The crew of the *Tri-Liner* had observed a small aircraft circling in their vicinity. When this aircraft was north of their position, they observed a military aircraft approach the small aircraft from behind, fire a missile, and destroy it. The crew of the *Tri-Liner* stated that this had occurred 3 to 5 NM ahead of the cruise ship that they had in sight. The crew of the *Majesty of the Seas* had observed a small aircraft at 15:27 hours on a northerly course; it approached them weaving back and forth and then turned back to a northerly course. Two minutes later, at 15:29 hours, when the ship was at 23 31.4N 082 33.5W, they saw the aircraft on a bearing of 095°T at 4 to 5 NM. At the same time they saw a military jet, high on their starboard side, fire a missile which destroyed the small aircraft. N5485S had moved east in the last two minutes of flight and was due north of the *Tri-Liner* when it was shot down. A plot of the bearing and distance from the cruise ship gave a position for the shoot-down of N5485S at 23 30.1N 082 28.6W, 10 NM outside Cuban territorial airspace.

2.3.3.3.8 The occupants of N2506 saw what they reported as another flare and another ball of smoke and immediately tried to call both N2456S and N5485S. They also saw, to their left, what they reported as a big boat and a smaller one which appeared to be approaching the smoke.

2.3.3.3.9 The United States radar data showed N5485S to have been on an easterly track when it was shot down.

2.3.3.3.10 According to the transcript of the military radio communications provided by the United States, the MiG-29 pilot reported at 15:25 hours that there was a fishing boat in the area; at 15:30 hours he reported that there was a large passenger boat close to the area, on a course of approximately 90° and that the event was to the right of that boat.

2.3.3.4 **The flight of N2506**

2.3.3.4.1 The pilot of N2506 called Havana ACC, when still north of the 24N parallel, and reported his intentions. Havana ACC replied that N2506 was entering active danger areas. N2506 crossed the 24N parallel heading south, between 082 20W and 082 40W, at approximately 15:00 hours. This heading put the aircraft on a course towards the city of Havana, through the MUD-8 and MUD-9 danger areas. At 15:17 hours N2506 had an exchange with N2456S about a "boat" in their area which N2506 reported overflying and which was seen by the occupants of N2506 to their left. SSR Mode C responses recorded by United States radar indicated that N2506 was at a low altitude.

2.3.3.4.2 The Cuban radar record showed that N2506 reached its southernmost point at 15:19 hours, approximately 4 NM north of Havana. The United States radar data showed N2506 at its southernmost point at 23 18.6N 082 25.6W at 15:20 hours, about 1.5 NM inside Cuban territorial airspace and 6.5 NM south of the intended eastbound search track (23 25N). When interviewed by the ICAO team, the pilot of N2506 maintained that the aircraft was not inside Cuban territorial airspace. Both the Cuban and the United States radar data showed that after having reached its southernmost point, N2506 headed northeast maintaining that heading for the next six minutes. Just after turning northeast, at approximately 15:20 hours, the pilot of N2506 called Havana ACC, passed a greeting message and

said that he was 12 NM north of Havana. When interviewed by the ICAO team, the pilot of N2506 maintained that he had been flying an easterly search track for some ten minutes before turning to the north.

2.3.3.4.3 At 15:21 hours there was an indication on the intercom in N2506 that the occupants saw a Cuban MiG in their area and assessed that the MiG would shoot. Immediately after this, the occupants of N2506 saw what they described as a flare and had other sightings of MiG aircraft. N2506 was approximately 5 NM southeast of N2456S when N2456S was shot down. Still heading northeast, N2506 established radio contact with N5485S, exchanged warnings about MiGs and repeatedly tried to contact N2456S. Just prior to 15:24 hours, N2506 gave a position of 23 25N 082 20W. At 15:27 hours the pilots of N2506 and N5485S discussed their earlier observation of smoke, a flare and a MiG, and confirmed that there was no contact with N2456S. At approximately 15:28 hours N2506 turned left to a northwesterly heading at about the same time that N5485S was shot down about 10 NM to the west. The occupants of N2506 saw another flare and another ball of smoke and continued to call N2456S and N5485S. United States radar data indicated that N2506 was very low (at about 100 ft) at that time.

2.3.3.4.4 When interviewed by the ICAO team, the occupants of N2506 stated that they again saw the cruise ship on their left and a smaller boat which was heading towards the smoke. At 15:30 hours, as recorded on the intercom, one of the occupants suggested that they should fly to one of the vessels in sight and contact it by radio to ask it to investigate the smoke. The pilot and the other occupants of N2506 realized then that something was wrong and decided to leave the area. The pilot stated that he climbed into the scattered cloud layer between 3 000 and 5 000 ft, switched off the SSR transponder and did not use the radio. According to the United States radar records, N2506 continued to the northwest and from 15:33 hours there were no Mode C returns. The Mode C returns were again received at 15:42 hours and gave an altitude of 2 900 ft. Both the Cuban and the United States radar data showed that by 15:46 hours N2506 was north of the 24N parallel and still heading northwest. N2506 subsequently returned to Opa Locka and landed at 17:08 hours.

2.3.4 Cuban military radio communications

2.3.4.1 General

2.3.4.1.1 Radio communications between the Cuban military interceptors, SAR helicopters and their ground control had been recorded by Cuba, as well as by the United States. The transcripts of these recordings and their translation into English provided the basis for an analysis. The recordings were digitized, which facilitated precise measurements of time between recorded transmissions, simplified the verification of the transcripts, and permitted a limited analysis of the sound spectra.

2.3.4.2 Recording provided by Cuba

2.3.4.2.1 Cuba provided the original tape of the recording of the radio communications between the military interceptors and their ground control, a cassette tape copy of this recording and the recorder on which the original recording had been made.

2.3.4.2.2 The original tape was checked and no physical damage was found. The digitized copy of the original tape was compared to the digitized copy of the cassette tape. Parts of the recording were very noisy, voices were frequently distorted and some transmissions transcribed could not be detected. However, these differences were deemed not significant.

2.3.4.2.3 The transcript provided by Cuba covered the time period from 15:08:24 to 15:51 hours. Except for the starting time (15:08:24), time references were in full minutes only. Time references in seconds were derived by measuring the elapsed time of the recording on the digitized copy.

2.3.4.3 **Recording provided by the United States**

2.3.4.3.1 On 3 and 4 June 1996, the ICAO team analyzed the original tape as recorded by the United States of the radio communications between the Cuban military aircraft and their ground control. The recording covered the time period from 15:00 to 16:30 hours.

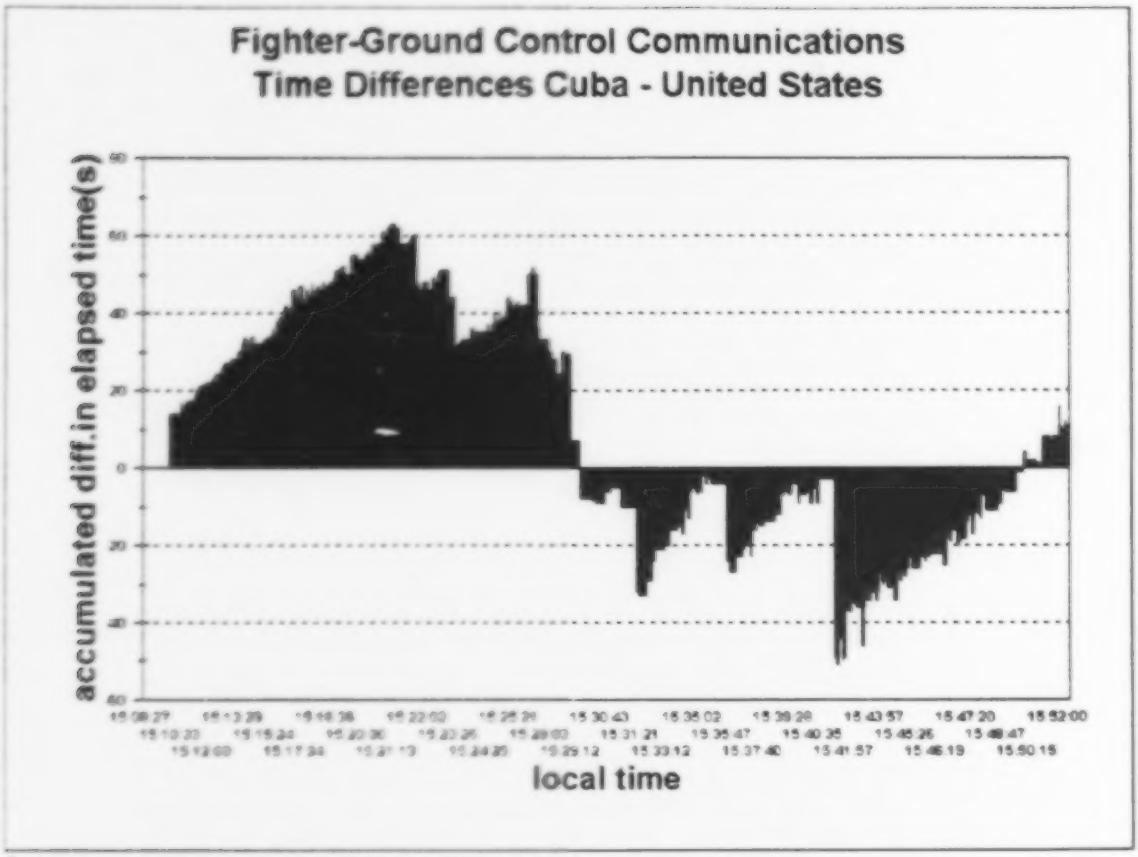
2.3.4.3.2 The original tape comprised 4 tracks; one track contained the recorded sound and another a coded time signal. The time in seconds for each transmission was read from a time signal decoder. The time references in the transcript were verified.

2.3.4.3.3 The recording was digitized and compared to the transcript; no significant differences were found. In general, the quality of the recording was good. Transmissions by the aircraft were mostly loud and clear. Transmissions by the ground control were significantly fainter.

2.3.4.4 **Differences between the recordings**

2.3.4.4.1 Significant differences were noted between the recording provided by Cuba and the recording provided by the United States. Several transmissions in the recording provided by the United States could not be found in the recording provided by Cuba.

2.3.4.4.2 Tests were carried out to determine if it was possible that these transmissions were not recorded because of other radio communications being recorded at the same time. The elapsed time from a common starting point of the radio communications ("Al Norte") was calculated for each radio transmission. The elapsed time on the recording provided by Cuba was compared with the elapsed time of the recording provided by the United States.



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2.3.4.4.3 The elapsed time of all matching radio transmissions on the recordings provided by Cuba and by the United States was calculated. The above graph shows the accumulated difference in elapsed time. The accumulated difference increased when a longer elapsed time was measured on the Cuban recording as compared to the recording provided by the United States, and decreased when a longer elapsed time was measured on United States recording.

2.3.4.4.4 At 15:52 hours, the end of the analyzed recording, the graph shows that a difference of only about 10 seconds existed between the two recordings. A small, continuous increase or decrease in the difference in the elapsed time of the two recordings would not, by itself, be a cause for concern.

2.3.4.4.5 From 15:08 to 15:22 hours, the accumulated difference in elapsed time increased to one minute. The graph shows an almost straight line indicating a linear relationship between the speed of the recordings provided by Cuba and by the United States. The accumulated difference in elapsed time then drops to 47 seconds. Similar significant discontinuities in the accumulated difference were found in six other places. All significant discontinuities in the accumulated difference in elapsed time corresponded to significant differences in the transmissions recorded by Cuba and those recorded by the United States. These discontinuities are analyzed in detail below.

2.3.4.4.6 Discontinuity at 15:21 hours. The duration of the Cuban recording of this segment was 3 seconds; the duration of the same segment of the United States recording was 16 seconds, a difference of 13 seconds. References to a launch contained in the United States recording were not found in the Cuban recording.

Time Cuba	Time US	Cuba	United States
15:21:57	15:22:23	CORRECTO, CORRECTO *Correct, correct*	CORRECTO *Correct*
			HAY UNA LANCHA CERCA DE ELLA. LA AVIONETTA CAYO CERCA DE ELLA *OK. There's a launch near it. The aircraft fell near the launch.*
15:22:00	15:22:39	OYE, MARCARON EL LUGAR PARA IRNOS *Hey, did you mark the place, so we can leave?*	OYE, MARCARON EL LUGAR PARA IRNOS *Listen, they marked the spot so we can go.*

2.3.4.4.7 Discontinuity at 15:22 hours. The duration of the Cuban recording of this segment was 33 seconds; the duration of the same segment of the United States recording was 41 seconds, a difference of 8 seconds. References to a launch contained in the United States recording were not found in the Cuban recording.

Time Cuba	Time US	Cuba	United States
15:22:53	15:23:28	FIJATE, VAMOS A TREPAR ALTURA 3200-4000 M POR ENCIMA DEL OBJECTIVO DESTRUIDO AHI... Y MANTENGA VELOCIDAD ECONOMICA *Listen, let us climb to height 3200 to 4000 m above the contact destroyed there, and maintain economic speed.*	SI RESERVAMOS A TREPAR ALTURA 3200-4000 M POR ENCIMA DEL OBJECTIVO DESTRUIDO AHI Y MANTENGA VELOCIDAD ECONOMICA *OK, climb to 3200, 4000 meters above the destroyed target and maintain economic speed.*
		2972, ANTONIO	OYE, LA LANCHA PARECE QUE GIRO PARA AHI. *Hey, it looks like the launch turned towards there.*
		72, ANTONIO	LA LANCHA GIRO PARA AHI, OISTES *The launch turned toward there, got it?*
			LA LANCHA GIRO PARA DONDE ESTABA. PARA DONDE GIRO EL OBJECTIVO *The launch turned to where the target was, where it fell.*
		08,CISNE-2	08, CISNE-2
15:23:26	15:24:09	ADELANTE *Come in*	ADELANTE *Go ahead*

2.3.4.4.8 Discontinuity at 15:28 hours. The duration of the Cuban recording of this segment was 3 seconds; the duration of the same segment of the United States recording was 17 seconds, a difference

of 14 seconds. References to a ship contained in the United States recording were not found in the Cuban recording. The transmission on the United States recording ("En el lugar....") would have had to fit into an interval of 0.2 seconds in the Cuban recording.

Cuba time	US time	Cuba	United States
15:27:56	15:28:32	OK, EL 08 TINE EL UNO 12 YA *OK, 08 has 1200 already*	TIENE EL UNO EN 12 YA *The one has 12 now*
			EN UNO 12
			EN EL LUGAR DE LOS HECHOS ESTA EL BARCO RECOCNIENDO AHI PARECE. UN BARCO RECOGNIENDO. EN LA PRIMERA. *In the place where events took place, it looks like the boat is picking up now. A boat is picking up...in the first...*
15:27:59	15:28:49	EL UNO 12 REGRESANDO *One 12 returning*	EN LA PRIMERA ESTA RECOGNIENDO UN BARCO. EL UNO 12 REGRESANDO *A boat is picking up in the first...the one 12, returning...*

2.3.4.4.9 Discontinuity at 15:29 hours. The duration of the Cuban recording of this segment was 28 seconds; the duration of the same segment of the United States recording was 1 minute and 13 seconds, a difference of 45 seconds. References to a ship contained in the United States recording were not found in the Cuban recording.

Cuba time	US time	Cuba	United States
15:29:05	15:30:02	08, HAGA CONTACTO CON EL 2972, Y DIRIJALO MAS O MENOS AL LUGAR *08, contact 2972 (SAR) and lead him to the place more or less*	08, HAGA CONTACTO CON EL 2972, Y DIRIJALO MAS O MENOS AL LUGAR *Contact 2972 and direct the...to the location.*
		2772,08	2972, 08
			"OCA, HAY UN BARCO GRANDE DE PASAJEROS, DE PASAJEROS, QUE ESTA CERCA DE LA ZONA ES DECIR EL BARCO VA CON RUMBO 90 APROXIMADAMENTE. Y ESO QUEDA A LA DERECHA DEL BARCO ESE, DEL BARCO GRANDE" *OK. There is a large passenger boat that is close to the zone. That is, the boat is going on a course of 90 approximately. And that is to the right of that boat, the big boat.*
		ESTAMOS CHEQUEANDO, MAS O MENOS, MENELAO MORA, AQUI EN LA ZONA DE PLAYA BARACOA *We are checking, more or less, Menelao Mora, here in the Baracoa Beach area.*	ENTERADO, NOSOTROS ESTAMOS CHEQUEANDO, MAS O MENOS, MELELAO MORA, AQUI EN LA ZONA DE PLAYA BARACOA *Understood. We are checking more or less Menelao Mora here in the zone of Playa Baracoa.*
		ESTA BIEN *Roger*	

		ANTONIO, ... ,ANTONIO, 08	
		ADELANTE *Come in*	
			ROMPE 360 Y BUSCA EL BARCO, EL BARCO GRANDE Y A LA DERECHA DEL BARCO ANTES DE LLEGAR AL BARCO GRANDE ESTA EL OBJETIVO. NO VALLAN MUY BAJITO. NO TE APROXIMES DEBAJO. TEN CUIDADO QUE EN LA ZONA DE DONDE CAYO LA PRIMERA HAY UN OBJETIVO... UN BARCO. TEN EN CUENTA ESO. TEN CUIDADO CON ESO. *Go to 360 and look for the boat, the big boat, and to the right of the boat, before you get to the big boat, is the target. Don't go too low. Don't approach it low. Be careful, in the zone where the first one fell there is a target a boat. Take it into account. Be careful of it.*
			ENTERADO *Understood*
15:29:33	15:31:07	HACE FALTA QUE DESPEGUE UN RAPIDO PARA LA REGION. *A fast one must take off for the area.*	HACE FALTA QUE DESPEGUE UN RAPIDO PARA LA REGION. *A rapid ..... needs to take off for the region.*

2.3.4.4.10 Discontinuity at 15:31 hours. The duration of the Cuban recording of this segment was 35 seconds; the duration of the same segment of the United States recording was 1 minute and 2 seconds, a difference of 27 seconds. References to ships contained in the United States recording were not found in the Cuban recording.

Cuba Time	US Time	Cuba	United States
15:30:54	15:32:25	HAY UN BARCO AHI AL NORTE DE LA ACADEMIA NAVAL A UNOS 5 KILOMETROS *There is a ship over there, west of the naval academy about 5 km.*	TENGO UN BARCO AHI AL NORTE DE LA ACADEMIA NAVAL A UNOS 5 KILOMETROS, GRANDE. *I have the vessel there north of the academy, about 5 km. from the naval academy, large.*
			PERO ES UN BARCO IMENSO, BLANCO DE PASAJEROS *But it is a very large vessel, white, passenger type*
			CORRECTO *Correct*
			NO ESTA A 5 KILOMETROS, ES LEJOS. *That is not at 5 km, it is far out.*
		45, ANTONIO.... ,ARRANQUE, TAXEO Y DESPEGUE *45, Antonio...start up, taxi and take-off*	
		2908, HAGA CONTACTO CON EL 2972 PARA VER POSICION *2908 contact 2972 (SAR) to check position.*	HAGA CONTACTO CON 2L 2972 A VER LA POSICION. *Make contact with 2L 2972 to check the position.*
		2972, ANTONIO, EHH 08 *2972, Antonio...uh...08*	
		08 TENGO EL OBJECTIVO A LA VISTA, TENGO EL OBJECTIVO *08, I've got a target in sight, I've got the target.*	08 TENGO EL OBJECTIVO A LA VISTA, TENGO EL OBJECTIVO *I have the target in sight, I have the target*
		08, ANTONIO	COPIADO, HAY UNA LANCH AHI QUE ESTA RECOGNIENDO AHI *Copied, there is a launch there that is picking up.*
			OYE, ESTOS A UNOS 10 KILOMETROS DEL OBJECTIVO *Listen, I am about 10 km from the target*

			ESO ES CORRECTO O SEA EL BARCO GRANDE TE VA SENALAR MAS O MENOS A LA DERECHA Y UN POQUITO ANTES DE LLEGAR AL BARCO ESTA UN BARCO CHIQUITO AHI DONDE ESTA, DONDE CAYO LA PRIMERA *That is correct. That is, the large vessel is going to signal you, more or less to the right and a little before you reach the large vessel there is a small vessel there where it is, where the first fell*
			NO PERO ESTOY CON RUMBO DE 320 DE... *No, but I am on course 320 from...*
		ADELANTE *Come in*	ADELANTE *Go ahead*
		EL 45 YA VA PARA ALLA *45 is headed over there*	
		RECIBIDO *Roger*	RECIBIDO *Roger*
		EL 08, ME ENCUENTRO AL SUR DE BOYEROS *I'm south of Boyeros*	ME ENCUENTRO AL SUR DE BOYEROS *I am south of Boyeros*
		ALTURA? *Height?*	ALTURA? *Altitude?*
15:31:29	15:33:27	4500 M	4500 METROS.

2.3.4.4.11 Discontinuity at 15:35 hours. The duration of the Cuban recording of this segment was 42 seconds; the duration of the same segment of the United States recording was 1 minute and 2 seconds, a difference of 20 seconds. References to ships contained in the United States recording were not found in the Cuban recording.

Cuba time	US time	Cuba	United States
15:35:38	15:37:08	YA TIENES EL OBJECTIVO *You have the target*	YA TIENE EL OBJECTIVO *Do you have the target?*
		NEGATIVO. *Negative.*	NEGATIVO, ESTOY A UNOS 5 KILOMETROS, A UNOS 3 KILOMETROS DEL BARCO DE TRANSPORTE BANCO CON RUMBO 330 AL MOMENTO *Negative, I am at about 5 km, about 3 km from the white transport vessel on course 330 at this time*
		ENTERADO. *Roger*	ENTERADO. APROXIMANDOSE AL BARCO DE TRANSPORTE AHORA *Understood, you are approaching the transport vessel now*
			HAY UN BARCO MAS CHIQUITO ES ESA ZONA, DICELO QUE ES EL DE.. *There is a smaller vessel in that zone, tell him it is the one...*
			CORRECTO, AL SUR DEL BARCO GRANDE HAY UNO MAS CHIQUITO DE COLOR CARMELITA *Correct, to the south of the large vessel is a smaller brown one*
			ES AHI DONDE ESTAN, AHI DONDE ESTAN, AHI DONDE CAYO LA PRIMERA AHI ES DONDE ESTA EL BARCO *That is where they are, there where they are. There where the first (one) fell is where the vessel is*
		DEME UN CHANCE PARA ATERIZAR LOS CAZAS. DEMEN UN CHANCE. *Give me a chance to land the fighters. Give me a chance.*	
		EN POSICION DE FLAPS. *In flaps position.*	
		CONTINUE *Carry on*	
		EL 22, ME DIRIJO AL NORTE DE CELIMAR *22, I'm heading north of Celimar*	
15:36:20	15:38:10	ALTURA 45 *45, Height?*	ALTURA *Altitude?*

2.3.4.4.12 Discontinuity at 15:40 hours. The duration of the Cuban recording of this segment was 36 seconds; the duration of the same segment of the United States recording was 1 minute and 22 seconds, a difference of 46 seconds. References to ships contained in the United States recording were not found on the Cuban recording.

Cuba time	US time	CUBA	UNITED STATES
15:40:49	15:42:18	COPIADO, 360 EN 3 MINUTOS *Copy, 360, 3 min.*	COPIADO, 360 EN 3 MINUTOS *Copied, 360 for three minutes*
		PON TE COMODO...PONTE COMODO PARA QUE LE BUSQUES *Make yourself comfortable...make yourself comfortable to search for it*	NO TE *I do not...you*
			PREGUNTELE AL 2972 EL ... OBJECTIVO *Ask 2972 the...target*
			TENOMOS EL BARCO A LA VISTA *We have the vessel in sight*
			EL BARCO, PERO EL CHIQUITO O EL GRANDE, EL CHIQUITO O EL GRANDE *The vessel, but the small one or the large one?*
			EL BARCO GRANDE, UN BARCO GRANDE *The large vessel, a large vessel*
			ENTERADO, AHORA USTEDES TIENEN A LA VISTA EL BARCO GRANDE *Understood, now you have the large vessel in sight*
			ES UN TRANSPORTE *It is a transport*
			ES UN BARCO DE TRANSPORTE, ESTAN CERCA *It is a transport vessel, they are close*
		FIJATE 45, DESPUES DE VOLAR 3 MIN VAMOS A HACER UN PATRON AHI POR LA DERECHA, AHI POR LA DERECHA *Pay attention 45, after flying 3 min., we will make a pattern there to the right, there to the left.*	DESPUES DE VOLARLO A LOS 30 MINUTOS QUE HAGAS UN PATRON AHI POR LA IZQUIERDA... POR LA DERECHA. *After...at 3 minutes in order to make a pattern to the left...to the right.*
15:41:25	15:43:40	45	45

2.3.4.4.13 The differences between the recordings provided by Cuba and by the United States could not be reconciled. They could not be explained as the result of simultaneous transmissions recorded differently by different stations, nor could they be explained as the result of technical difficulties in the recording.

2.3.4.4.14 All the differences noted above related to radio transmissions in which vessels in the area of shoot-down were mentioned.

2.3.4.5 **Time of the shoot-downs**

2.3.4.5.1 Based on the Cuban recording and the matching segments of the United States recording, the time of the first shoot-down was 15:21 hours and the time of the second shoot-down was 15:27 hours.

2.3.4.6 **Location of the shoot-downs**

2.3.4.6.1 The military ground control transmitted the following geographical references to the interceptors (Cuban recording):

15:11:51 "... BUSQUELO POR DEBAJO DE UDS. ES POR DEBAJO... AL NORTE DE BARACOA UNOS 30 KM"

"... search below you guys, it is below...north of Baracoa some 30 km."

15:13:06 "..NORTE DE SANTA FE, DISTANCIA 35 KM. ESTA EL OBJETIVO"

"...north of Santa Fe, distance 35 km...there is the contact."

15:16:48 "..EL OBJETIVO ESTA AL NORTE DE SANTA FE, DISTANCIA 25 KM".

"...the contact is north of Santa Fe, distance 25 km."

The first "OBJETIVO" (contact) was sighted 16 seconds later. Based on this, a possible area of the shoot-down (N2456S) would be some 25 - 30 km north of Baracoa on the Cuban coast, some 5 km west of Havana.

2.3.4.6.2 The position of the second aircraft (N5485S) was referred to in a transmission at 15:23:54 hours (Cuban recording) as the area in which the first aircraft fell:

"ESTA EN LA REGION, ESTA EN LA REGION DONDE CAYO".

"It's in the area, it's in the area where it fell".

This information was repeated by the military interceptor at 15:24:48 hours (Cuban recording):

"ESTA EN LA REGION DE LOS HECHOS, DONDE CAYO EL OBJETIVO, HACE FALTA QUE NOS AUTORICEN".

"It is in the area where the event took place, where the target went down. We need authorization."

Both transmissions were contained in the recordings provided by Cuba and by the United States. This would confirm that the position of the second shoot-down was in the same area as the first shoot-down.

2.3.4.6.3 The recording provided by Cuba contained directions given to a Cuban SAR helicopter to a position north of Baracoa, at 15:28:17 hours: "DE BARACOA PONGA CURSO 330, A 5 KM" (*From Baracoa take course 330, to 5 km*). This radio transmission was not contained in the United States recording. The helicopter was later re-directed to another position.

2.3.4.6.4 The radio transmissions contained in the United States recording made several references to vessels in the area. They linked the positions of these vessels to the positions of the shoot-downs. The following time references and radio transmissions were contained in the United States recording:

15:15:11 "LO QUE TENGO A LA IZQUIERDA EN ESTOS MOMENTOS ES UN BARCO DE PASAJEROS GRANDE"

"What I have to the left right now is a large passenger ship."

15:20:04 "VAMOS A DARLE UN PASE. PORQUE SE ESTAN ACERCANDO UNOS BARCOS AHI, LE VOY DAR UN PASE"

"We are going to give it a pass. Because some vessels are approaching there, I am going to give it a pass."

15:22:31 "HAY UNA LANCHA CERCA DE ELLA. LA AVIONETTA CAYO CERCA DE ELLA"

"OK. There's a launch near it. The aircraft fell near the launch."

15:23:39 "OYE, LA LANCHA PARECE QUE GIRO PARA AHI."
"LA LANCHA GIRO PARA AHI, OISTES?"
"LA LANCHA GIRO PARA DONDE ESTABA, PARA DONDO GIRO EL OBJECTIVO."

"Hey, it looks like the launch turned towards there."
"The launch turned toward there, got it?"
"The launch turned to where the target was, where it fell."

15:28:35 "EN EL LUGAR DE LOS HECHOS ESTA EL BARCO RECOGNIENDO AHI PARECE. UN BARCO RECOGNIENDO... EN LA PRIMERA."
EN LA PRIMERA ESTA RECOGNIENDO UN BARCO. ..."

"In the place where events took place it looks like the boat is picking up now. A boat is picking up...in the first..."

15:29:02 "TEN EN CUENTA QUE HAY UN BARCO AHI, TENGA CUIDADO"
"HAY UN BARCO PESQUERO"

"Keep in mind that there is a boat there, be careful."

15:30:08 "OCA. HAY UN BARCO GRANDE DE PASAJEROS QUE ESTA CERCA DE LA ZONA. ES DECIR EL BARCO VA CON RUMBO 90 APROXIMADAMENTE. Y ESO QUEDA A LA DERECHA DEL BARCO ESE. DEL BARCO GRANDE."

"OK. There is a large passenger boat that is close to the zone. That is, the boat is going on a course of 90 approximately. And that is to the right of that boat, the big boat."

15:30:36 "ROMPE 360 Y BUSCA EL BARCO, EL BARCO GRANDE Y A LA DERECHA DEL BARCO, ANTES DE LLEGAR AL BARCO GRANDE, ESTA EL OBJETIVO. NO VALLAN MUY BAJITO. (PAUSE) NO TE APROXIMES DEBAJO. TEN CUIDADO QUE EN LA ZONA DE DONDE CAYO LA PRIMERA HAY UN OBJETIVO, UN BARCO, TEN EN CUENTA ESO. TEN CUIDADO CON ESO."

"Go to 360 and look for the boat, the big boat, and to the right of the boat, before you get to the big boat, is the target. Don't go too low. Don't approach it low. Be careful, in the zone where the first one fell there is a target a boat. Take it into account. Be careful of it."

2.3.5 Radar data related to the shoot-downs

2.3.5.1 Radar information provided by Cuba

2.3.5.1.1 Havana ACC noted the Cessna aircraft on its surveillance radar, north of the 24N parallel. The aircraft were observed crossing the 24N parallel and heading south. The transponder codes were noted to be of the same series of codes normally used by Brothers to the Rescue aircraft. The progress of the flight of the three aircraft was not continuously monitored by Havana ACC because service not was provided to VFR flights. Due to a malfunction of the automatic radar data recording system, the radar data at Havana ACC was not recorded on that day.

2.3.5.1.2 Four air defence radars in Cuba were used to monitor the flights of the three Cessna aircraft and to direct the military interceptor aircraft. The positions of the three Cessnas were recorded and plotted by hand; the facilities were not equipped with automatic radar data recording systems.

2.3.5.1.3 According to the Cuban air defence radar records, one aircraft (N5485S) was first observed at 14:39 hours just north of the 24N parallel and heading west. A second aircraft (N2506) was observed at 14:51 hours also just north of the 24N parallel and heading west. These two aircraft were observed on a westerly track before turning south along 082 30W and crossing the 24N parallel at about 15:00 hours.

2.3.5.1.4 The third aircraft (N2456S) was first observed at 15:00 hours at position 23 41N 082 07W, well within the MUD-9 danger area, and heading south. According to the Cuban radar records, this aircraft penetrated the 12 NM Cuban territorial limit at 15:07 hours and continued on a southwesterly track until it was shot down in an area about 5 NM north of Baracoa at about 15:21 hours.

2.3.5.1.5 N2506 and N5485S penetrated the 12 NM limit at about 15:17 and 15:19 hours, respectively. The track of N5485S continued south until this aircraft was shot down in the same area as the first aircraft. N2506 turned northeast at about 15:20 hours and left Cuban territorial airspace at 15:24 hours. At 15:28 hours N2506 turned northwest and crossed the 24N parallel northbound at 15:43 hours at about 082 30W.

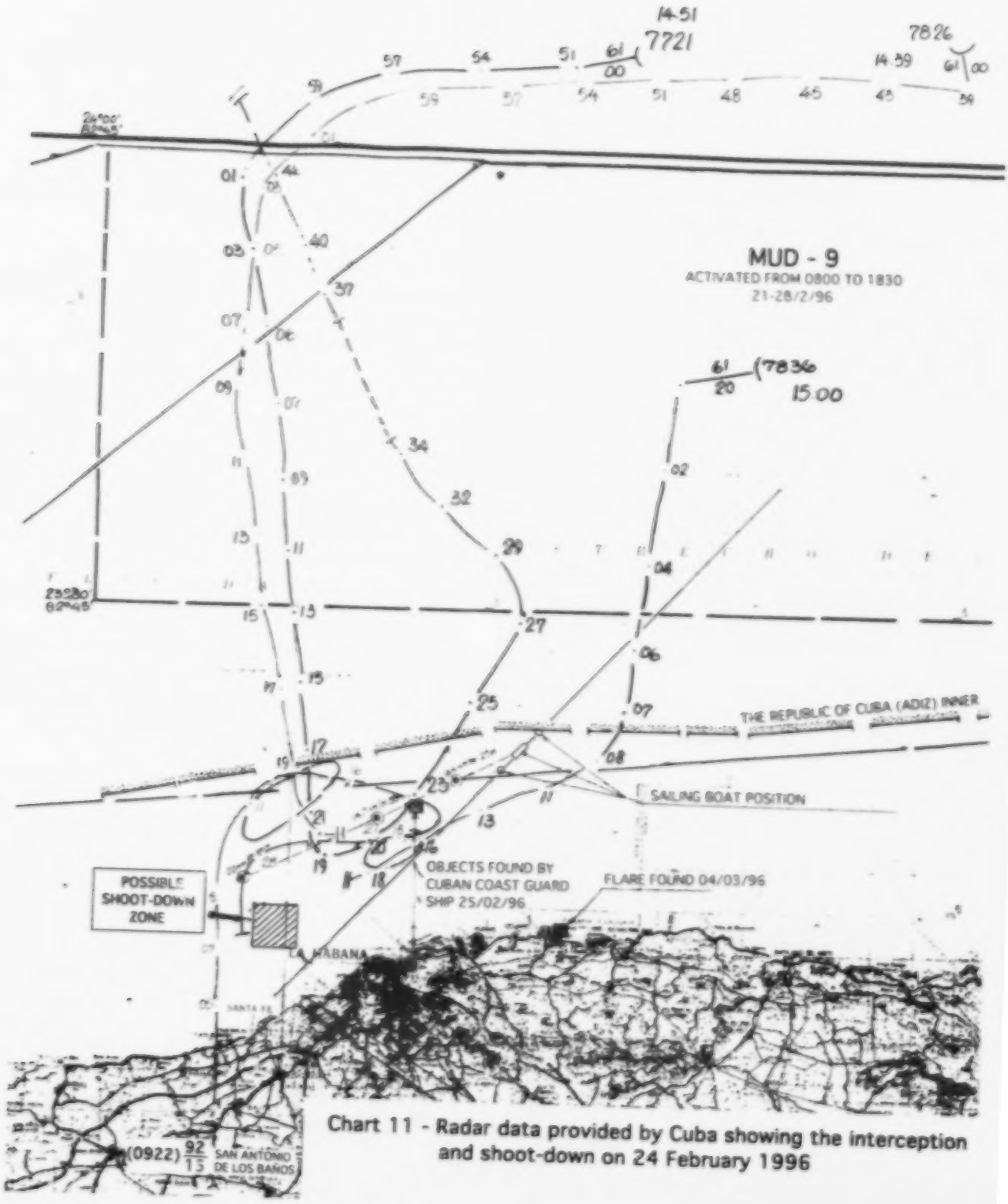

Chart 11 - Radar data provided by Cuba showing the interception and shoot-down on 24 February 1996

2.3.5.1.6 The Cuban radar records also showed the positions of the military interceptor aircraft plotted once a minute. Due to the high speed manoeuvres of the interceptors, with positions plotted by hand and only once every minute, it was not possible to reconcile the radar plot of their tracks with the manoeuvres described in the radio communications. Furthermore, the radar plot did not permit a determination of the relative positions of the MiG-29 and the two Cessna aircraft, which were shot down, or of the locations of the shoot-downs.

2.3.5.2 **Radar information provided by the United States**

2.3.5.2.1 Several radar facilities in the United States covered part or all of the flights of the three Cessna aircraft. The air route surveillance radar (ARSR) of Miami ARTCC, comprising both primary surveillance radar (PSR) and SSR, was used to monitor the flights, and its radar data was automatically recorded. Three other radars, located at Tamiami (J06), Cudjoe Key (B94) and Key West (J07) and connected to a central processing and recording facility at Riverside, California, were used by several United States agencies, including NORAD's SEAD sector, CARIBROC and DAICC. The B94 radar, a primary surveillance radar with SSR, was located in an aerostat balloon at an altitude of at least 4 000 ft at position 24 42.1N 081 30.4W. The B94 radar was able to follow the three Cessna aircraft at low level during their entire flight. While the source radar information was the same, the processing and presentation of radar information at each of the agencies was different. A radar data recording made of the surveillance radar (ASR-8) used by Naval Air Station Key West was not retained beyond 15 days and was not available.

2.3.5.2.2 The Miami ARTCC radar record showed the progress of the three Cessna aircraft southbound along 082 30W until well south of the 24N parallel. Radar contact with N2506 was lost at 15:09 hours at position 23 42.1N 082 31.6W; N2506 reappeared on radar at 15:31 hours at position 23 37.7N 082 22.1W when tracking north. Radar contact with N5485S was lost also at 15:09 hours, at position 23 42.7N 082 30.0W, Mode C altitude 1 200 ft. Radar contact with N2456S was lost at 15:18 hours at position 23 24.3N 082 31.4W, Mode C altitude 2 200 ft. Due to limitations in low-level coverage, N2456S and N5485S were not within Miami ARTCC radar coverage at the time they were shot down.

2.3.5.2.3 Radar data and plots (SSR, combined SSR/PSR and PSR alone) were provided by NORAD's SEAD sector for the three Cessna aircraft and the military interceptors. For the three Cessnas, turning points, SSR Mode C altitudes, southernmost positions and last observed radar positions were provided. The ICAO team reviewed the recorded flight progress in detail, including the manoeuvring of N2456S and N5485S during the final minutes of their flights. N2456S was heading north for some two minutes until its last observed position of 23 26N 082 27W. N5485S was also heading north until it turned on an easterly heading at 15:24 hours and was last observed on radar at 23 29N 082 26W. Position information on the MiG aircraft was also provided. However, as a result of the update rate of this radar information, the manoeuvres of the MiG-29 during the final stages of the interceptions of N2456S and N5485S could not be established.

2.3.5.2.4 A video tape of the CARIBROC radar data showed that the radar data had been processed by a radar tracking programme before being displayed. At 15:18 hours, N2456S was manoeuvring some 16 NM north of the Cuban coast and at 15:21 hours it was heading north as N5485S was approaching it in opposite direction at a distance of about 3 NM. The last radar position of N2456S was about 18 NM north of the Cuban coast. N5485S turned north and was manoeuvring some 24 NM north of Cuba at 15:24 hours. N5485S was on an easterly heading between 15:24 and 15:28 hours, and was last observed on radar at about 24 NM north of the Cuban coast.

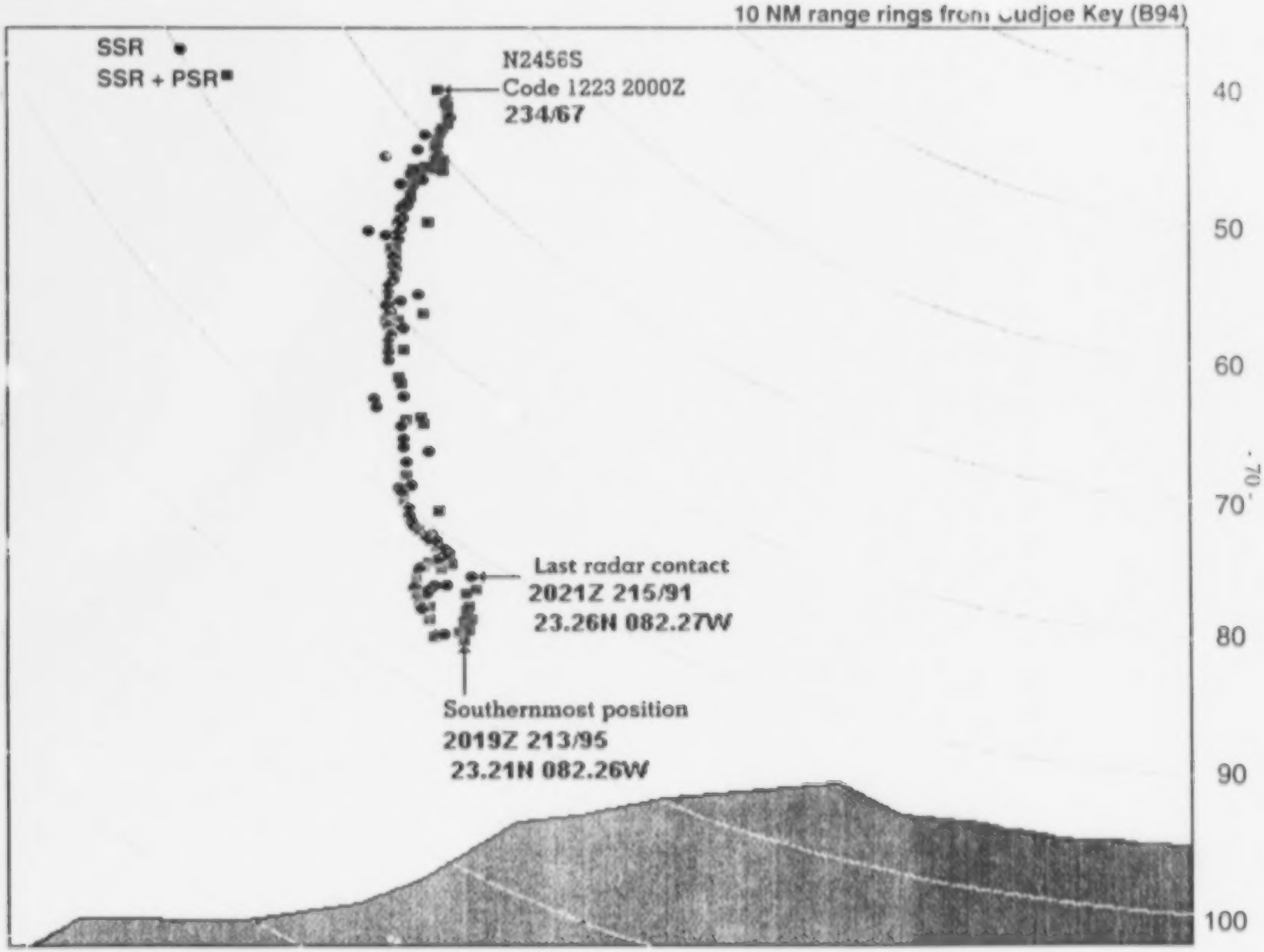

Chart 12 - The flight of N2456S as recorded by United States radar

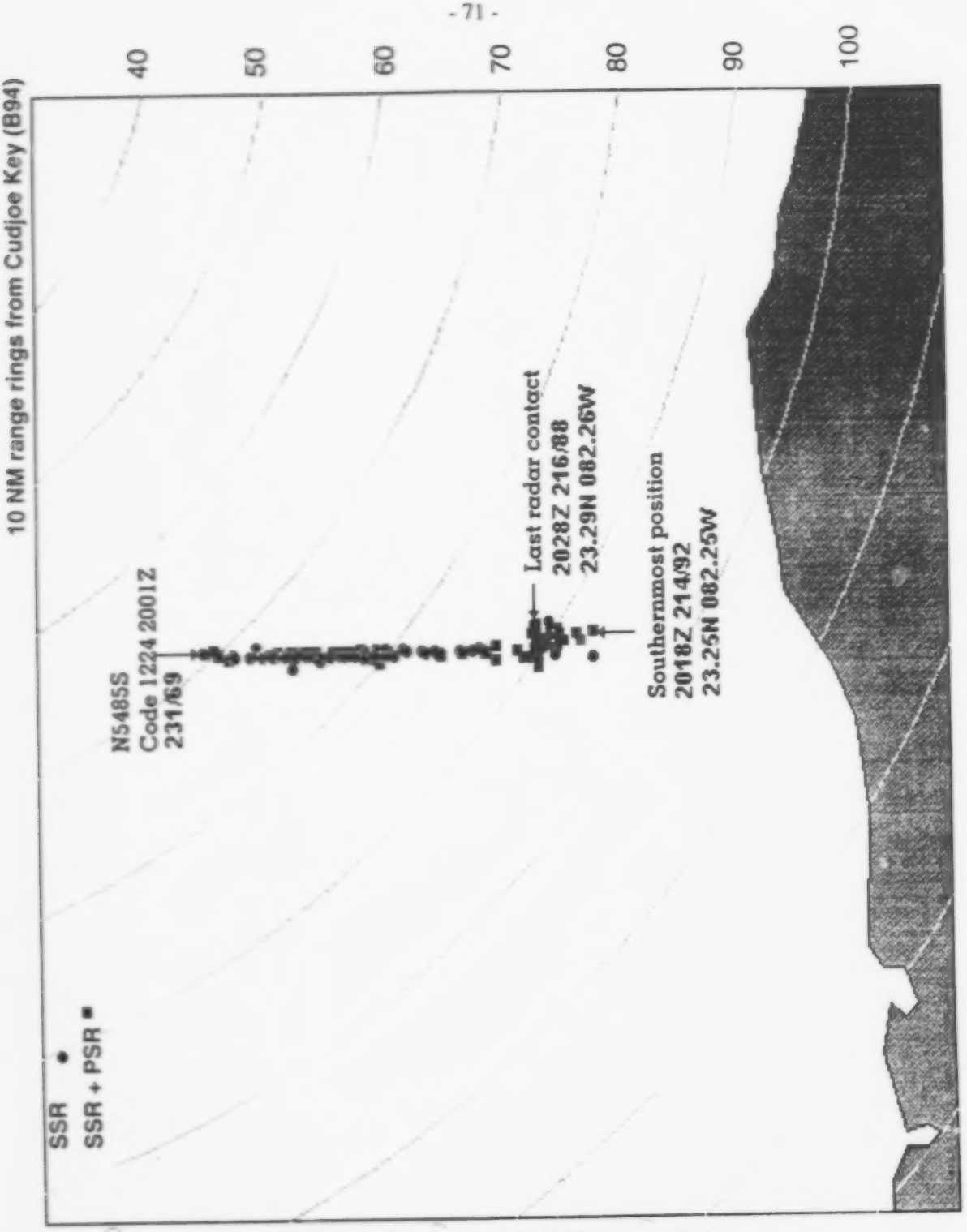

Chart 13 - The flight of N5485S as recorded by United States radar

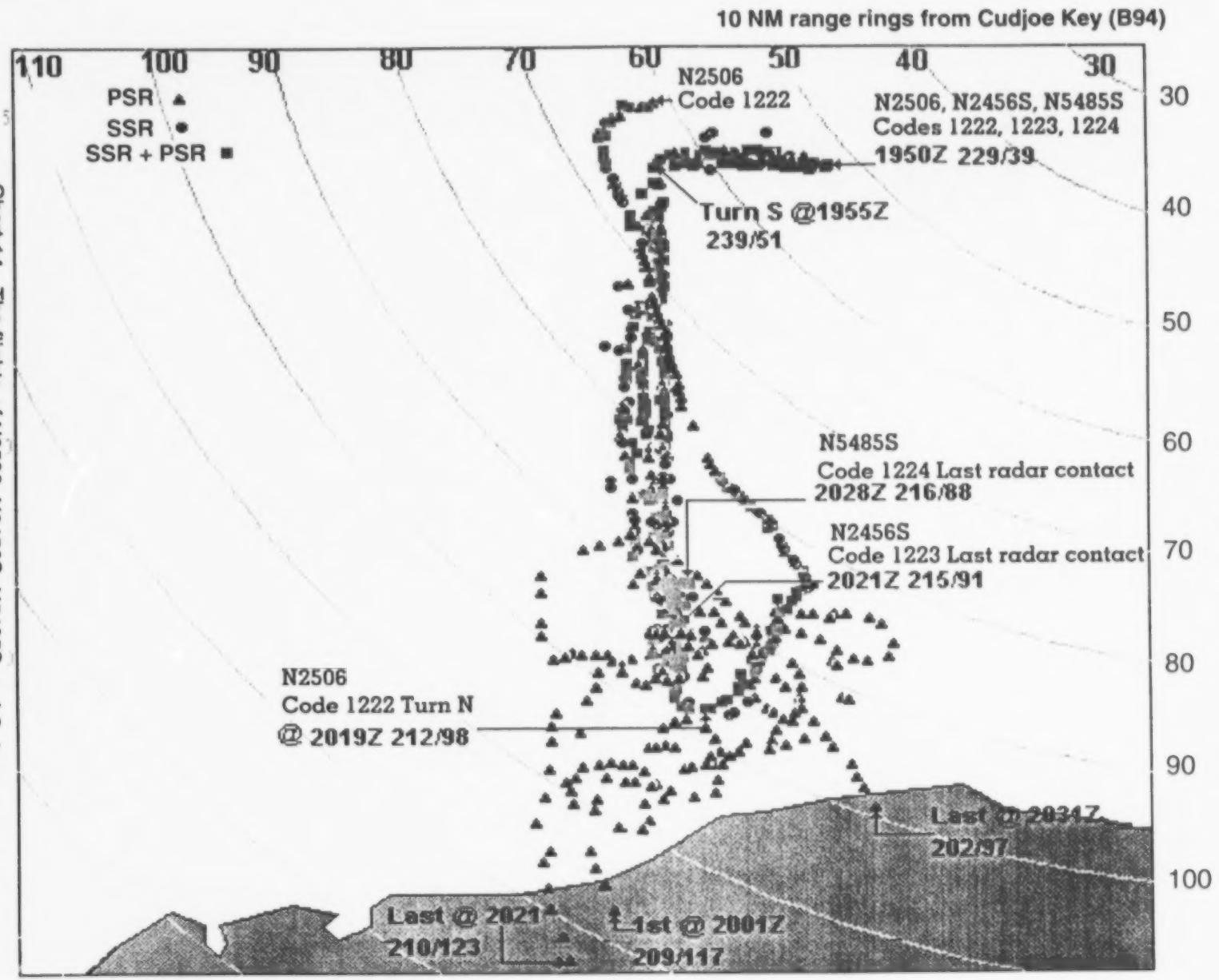

Chart 14 - The flights of N2506, N2456S, N5485S and Cuban MiGs as recorded by United States radar

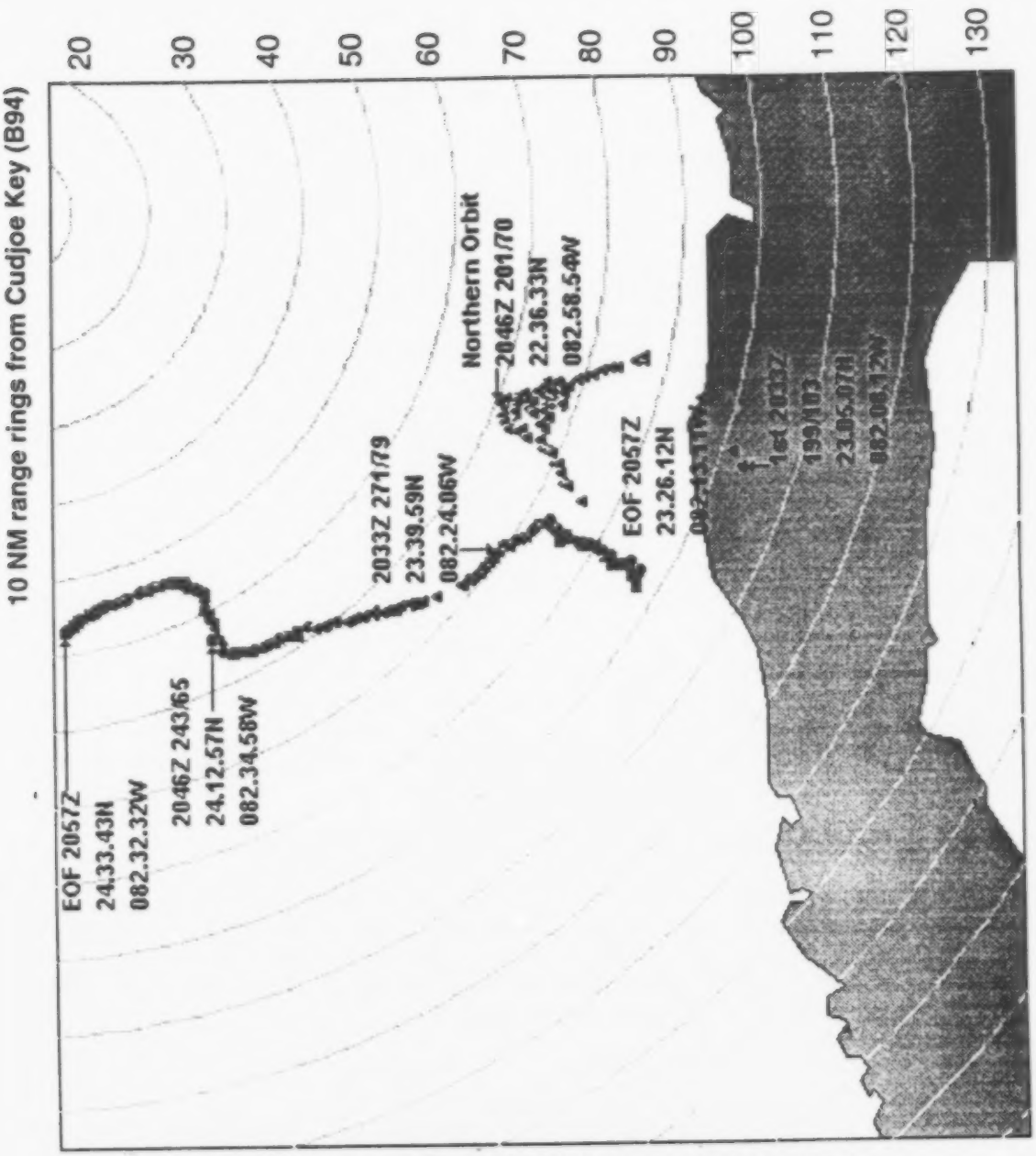

Chart 15 - The return flight of N2506 and the second pair of Cuban MiGs as recorded by United States radar

2.3.5.2.5 Annotated print-outs of a labelled radar display were provided by DAICC, but did not contain information additional to that provided by other agencies.

2.3.5.2.6 Based on the radar data from Miami ARTCC, NORAD's SEAD sector, CARIBROC and DAICC the progress of the flight of N2506, N2456S and N5485S could be established. However, an accurate assessment of the manoeuvring of N2456S, N5485S and the MiG-29 aircraft in the final stages of the interceptions was not possible on the basis of radar information provided.

2.3.5.3 **Comparison of radar data**

2.3.5.3.1 Data provided by Cuba showed that the three Cessna aircraft penetrated the 12 NM territorial limit and that two of them were shot down in Cuban territorial airspace 5 to 6 NM north of Havana: N2456S at position 23 09.4N 082 32.6W and N5485S at position 23 11.0N 082 34.1W. The United States data showed that only N2506 entered Cuban territorial airspace; that N2456S was shot down at position 23 25.9N 082 25.6W, 5 NM outside the Cuban territorial limit; and that N5485S was shot down at position 23 30.2N 082 27.1W, 10 NM outside the Cuban territorial limit.

2.3.5.3.2 The significant differences between the radar data provided by Cuba and the United States, could not be reconciled. Additional position information from an independent source would be required to resolve this discrepancy.

2.3.6 **Witnesses**

2.3.6.1 **Evidence provided by the staff of the cruise ship *Majesty of the Seas***

2.3.6.1.1 At the time of the interceptions the Norwegian cruise ship *Majesty of the Seas* was in the sea area about 26 NM north of Havana proceeding to the port of Miami on a heading of 069°T. The ship preserved a record of time, position and heading, taken automatically from its GPS navigation system every five minutes. Other parameters, such as speed and relative wind speed and direction, were also recorded. A hand written log was also kept, recording GPS position each hour from the display on the bridge.

2.3.6.1.2 An entry was made on 24 February 1996 in the ship's log which read:

> "15:23 Position 23 30.9N 082 35.1W Observed small explosion followed by burning material falling from an altitude of about 500 - 1 000 ft in bearing 115°. Estimated distance to object is 6 - 7 NM. A small vessel, probably a fishing vessel of about 60 ft is heading north but turns around and heads toward the burning material 1 - 2 NM southeast of it. Called Captain to the bridge."

2.3.6.1.3 The ship's log continued:

> "15:27 Observed a small aircraft approach from starboard on a northerly course. The plane turns and heads directly towards us, maintains this heading for about one minute before veering north.
>
> 15:29 Position 23 31.4N 082 33.5W The plane is now in bearing 095°. Estimated distance to it is 4 - 5 NM. A fighter jet appears high up on our starboard side. What seems to be a missile, is fired from the jet and hits the small plane a few seconds later. The plane and the missile explode in a ball of fire and fall slowly to the surface in mainly

small pieces. The largest piece lays burning on the surface for about one half minute before disappearing."

2.3.6.1.4 Based on the ship's position and the bearings and distances recorded, the following positions for the shoot-downs were plotted: first shoot-down at position 23 29N 082 28W, and second shoot-down at position 23 30.1N 082 28.6W.

2.3.6.2 **Evidence provided by the crew of the fishing boat *Tri-liner***

2.3.6.2.1 At the time of the first shoot-down the fishing boat *Tri-liner* was proceeding to Key West to discharge its catch. It was heading north about 25 NM north of Havana when an aircraft was observed to explode and fall into the sea 200 to 400 yards astern of the boat. A military aircraft, which the crew stated looked "like a F-15", was also seen.

2.3.6.2.2 The boat turned around and remained at the impact site for approximately 10 minutes. On resuming course to the north, a military aircraft was observed to fire a missile at, and to destroy, another small aircraft ahead of the boat. The crew of the fishing boat also observed a white cruise ship in the area and stated that the second aircraft fell into the sea 3 to 5 NM in front of that ship. The crew of the fishing boat believed the occurrences to have been some form of naval manoeuvres, and continued north towards Key West.

2.3.6.2.3 Whilst the *Tri-liner* was equipped with a GPS receiver, the crew did not record time or position when either of the events occurred. The master later estimated a position for the first shoot-down at 23 30N 082 17W and for the second shoot-down at 23 36N 082 17W. The positions estimated by the master would place his boat approximately 17 NM east of the cruise ship *Majesty of the Seas*. The watchkeeping staff on the bridge of the cruise ship stated that they were monitoring the fishing boat on their radar at 6 to 7 NM, as a collision hazard to their ship. The watchkeeping staff on the ship would not have been concerned about the *Tri-Liner*, had it been 17 NM distant. The observation of the crew of the fishing boat that the second aircraft fell into the sea 3 to 5 NM ahead of the cruise ship and north of the *Tri-Liner*, also supported the observation of the *Majesty of the Seas* that the distance between the two vessels was 6 to 7 NM rather than 17 NM. It was determined by the ICAO team that, whilst the visual observations of the crew of the *Tri-Liner* were credible, the positions provided by the master of the fishing boat were not accurate.

2.3.6.3 **Evidence provided by the yachtsman in the sailing boat**

2.3.6.3.1 Sometime after 15:10 hours the yachtsman heard a double explosion and saw an object trailing smoke fall towards the sea. He did not see the object enter the sea.

2.3.6.3.2 The sailing boat was proceeding along a track from 23 05.4N 082 30.6W to 23 44N 081 49.5W, having passed the initial position on the track at approximately 11:00 hours. The yachtsman did not maintain a log of times and positions. Since the sailing boat was being steered by an autopilot coupled to a GPS with a maximum expected cross-track error of $\pm$0.1 NM, it was reasonable to assume that the sailing boat was on the intended track.

2.3.6.3.3 The yachtsman later made an estimate of his position based on an assessment of progress along the intended track. His estimated position at 15:00 hours was between 23 19.6N 082 15.3W (4 hours at 5 kt) and 23 22.6N 082 12.3W (4 hours at 6 kt). He estimated the falling object to be 20 degrees right of the axis of the boat looking towards the stern, at a distance of 4 NM, since this was the distance to the horizon. Based on this he estimated that the position of the event had been between

23 18.0N 082 19.3W and 23 22.5N 082 16.0W. In a later statement he indicated that the distance might have been more than 4 NM, but not more than 10 NM.

2.3.6.3.4 An estimate of the position of the event observed by the yachtsman was made by the Cuban authorities. Their estimate was based on speeds of 5 and 6 kt for 4 hours and 21 minutes. This established a position for the boat between 23 20.9N 082 14.2W and 23 24.2N 082 10.8W. The estimate of the Cuban authorities showed that the distance of the event, as observed from the boat, could have been 20 NM if the event occurred 100 m above sea level.

2.3.6.3.5 An estimate of the position of the boat and the direction of the observation was made by the ICAO team applying the following tolerances: time of passage of the initial point of the track 11:00 hours ±10 minutes; track speed 6 kt ±1 kt; observed relative bearing 20° ±10° to the right of the axis of the boat when facing the stern; and the axis of the boat relative to the track of 044°T ±5°. This resulted in a position between 23 06N 082 14.4W (4 hours 15 minutes at 5 kt) and 23 28.4N 082 06.1W (4 hours 35 minutes at 7 kt). The possible observation sector was from 229°T at the southernmost position to 259°T at the northernmost position.

2.3.6.3.6 This estimation gave a distance from 20 to 31 NM to the impact positions of the aircraft provided by the Cuban authorities. Furthermore, this estimation gave a distance from 16 to 21 NM to the mean of the positions provided by the *Majesty of the Seas*; this area was, however, some 15 degrees to the north of the estimated observation sector. The estimated position of the sailing boat and the observations of the yachtsman could therefore not be reconciled with the positions of the shoot-downs as provided by either the Cuban authorities or the *Majesty of the Seas*.

2.3.6.3.7 It was conceivable that the yachtsman observed an event, possibly outside the tolerances of the sailing boat's estimated position and his observation parameters. However, due to the uncertainty in the accuracy of the parameters used, his observations could not be used in determining the location of the shoot-downs.

2.3.6.4 The observer in Havana

2.3.6.4.1 An alert about intruding aircraft had been given to an observer on duty at an observation post in Havana. Some 10 minutes later, he saw a military aircraft and, shortly thereafter, an aircraft in flames falling into the sea at an estimated distance of 5 to 6 NM northwest of his position. The observer only saw one event, which could support the position of either the first or the second shoot-down as provided by the authorities in Cuba. However, it could not be determined why the observer saw only one event, when two events were reported to have occurred in the same direction from the observation post within a time span of 7 minutes and only 2 NM apart.

2.3.6.5 Flotsam found by Cuba on 25 February 1996

2.3.6.5.1 A bag was recovered at 10:00 hours on 25 February 1996 by a Cuban search and rescue vessel at position 23 18N 082 22W. The bag was a type used to carry photographic or video equipment, and contained a battery charger and two aeronautical charts. The charger, Concord model 217010, had been manufactured in Japan and distributed by Console Consumer Electronics, Indianapolis, Indiana, United States. The two Jeppesen charts of the Carribean area were charts in general use. None of the items carried personal identification. It was not possible to determine what particular items might have been carried on board N2456S and N5485S that day or whether the items recovered were possessions of the occupants of these aircraft. It could not be determined whether the bag recovered had been on board either of the two Cessna aircraft.

2.3.6.5.2 The Institute of Oceanology of Cuba had carried out an analysis of surface drift to estimate the probable drift of a floating object, subject to water movement but not to wind effects (zero leeway), that had been released into the sea at the time and wreckage impact positions provided by Cuba. The Institute established that such an object could have drifted to the position at which the bag was recovered the next morning.

2.3.7 Location of the shoot-downs

2.3.7.1 In order to determine the locations of the shooting down of the two Cessna aircraft (N2456S and N5485S), all information obtained from different sources was analyzed. This included radar data from several radars in Cuba and the United States, the radio communications between the MiG pilots and their ground control, position information derived from observations by the MiG pilots, testimony by the occupants on board N2506, search and rescue efforts by Cuba and the United States, observations by the staff of the cruise ship *Majesty of the Seas*, observations by the crew of the fishing boat *Tri-Liner*, observations by the yachtsman of the sailing boat, and observations by the observer in Havana.

2.3.7.2 The Cuban radar record, the reference in the communications recording provided by Cuba directing the SAR helicopter initially to an area 5 km north of Baracoa, the observer in Havana and, to a lesser extent, the observations of the yachtsman, supported the position of Cuba that the shoot-downs occurred in an area 5 to 8 NM from the coast, well within its territorial airspace. The United States radar record, the communications recording provided by the United States, and the evidence from the *Majesty of the Seas* and the *Tri-Liner* supported the position of the United States that the shoot-downs occurred in an area between 5 and 10 NM outside Cuban territorial airspace.

2.3.7.3 There were significant, irreconcilable differences between the radar information provided by Cuba and by the United States. While the Cuban radar recording was plotted by hand and the United States radar information was automatically recorded, it was considered that the method of recording by itself could not validate or invalidate the information. Therefore, additional corroborating information was necessary to determine the location of the shoot-downs. The communication recording provided by Cuba, in particular the reference to directing the SAR helicopter initially to an area 5 km north of Baracoa, supported the shoot-down positions provided by Cuba. On the other hand, the communications recording provided by the United States, in particular the reference to a large passenger ship and a fishing boat, supported the view that the shoot-downs occurred near those vessels. In view of the significant differences which existed between the communications recordings provided by Cuba and by the United States, each supporting the positions of the shoot-downs provided by the respective States, this source of information was of limited value in determining the location of the shoot-downs.

2.3.7.4 Eyewitness accounts obtained from the *Majesty of the Seas* and the *Tri-Liner* were mutually supportive. Therefore, the information from these two vessels was considered to be the best available from witnesses to the shoot-downs. The occupants of N2506 noted the presence of a large passenger boat and a small vessel in the area where smoke was seen. The recorded positions and track of the *Majesty of the Seas*, the observations by its crew and passengers, the position of the *Tri-Liner* relative to the *Majesty of the Seas*, and the resulting estimated locations of the shoot-downs could therefore be considered to be the most reliable position estimates. These position estimates were compared to the shoot-down positions provided by the United States; there was a 4 NM difference for N2456S and 1 to 2 NM difference for N5485S. These position estimates were also compared to the shoot-down positions provided by Cuba and there was a 20 NM difference for both aircraft.

2.3.7.5 Because most of the evidence provided by Cuba and by the United States regarding the shoot-down positions was incompatible with each other, it was considered desirable to seek verification

of the position of the *Majesty of the Seas* from another source, such as satellite photographs from space agencies. By 14 June 1996, the ICAO team had not been able to obtain such corroborative evidence of the position of the *Majesty of the Seas* between 13:00 and 18:00 hours on 24 February 1996. With this qualification and based on the recorded positions of the *Majesty of the Seas*, N2456S was shot down approximately at position 23 29N 082 28W, 9 NM outside Cuban territorial airspace and N5485S was shot down approximately at position 23 30.1 N 082 28.6W, 10 NM outside Cuban territorial airspace.

2.3.8 **P-3 Orion aircraft**

2.3.8.1 When interviewed by the ICAO team, the pilot of N2506 stated that the three Cessna aircraft sighted a United States Navy P-3 Orion flying in the opposite direction as they proceeded west along 24 10N parallel at about 14:55 hours and just before they turned south along 082 30W.

2.3.8.2 Radar data from NORAD's SEAD sector showed that the P-3 Orion was flying back and forth (east-west) approximately along 24 10N parallel between 081 22.8W and 082 37.1W. At about 15:10 hours the P-3 Orion turned northeast to Key West.

2.3.8.3 The United States provided, *inter alia*, the following information regarding the mission of the P-3 Orion:

> "The P-3 operating in the Florida Straits prior to the incident was in support of research, development, test, and evaluation (RDT&E) of the Air Deployed Acoustic Receiver project. The mission was in no way connected to the situation in Cuba, the flight of the MiGs, or the flight of the Brothers to the Rescue aircraft;"
>
> "The P-3's turn to the north-northeast at approximately 15:10 hours EST was not related to the Cuban MiG activity. It was due to the fact that the crew had completed their RDT&E mission and were returning to base. The fact that the time of occurrence corresponded with the flight of the MiGs is purely coincidental;" and
>
> "Between 14:45 and landing, the P-3 was in contact with Key West approach control and NAS Key West air traffic control tower as it returned to its base of operations, NAS Key West."

2.3.8.4 A statement by the pilot of the P-3 Orion read, *inter alia*, as follows:

> "On the afternoon 24 February 1996, the day of the Brothers to the Rescue shootdown by Cuban MiGs, I was the pilot in command of a sonobuoy test flight operating in an area to the SSW of Key West approximately 5 to 8 miles north of the Cuban ADIZ. By mid-afternoon we were conducting a series of range runs which involved flying legs east to west and back at 1 500 feet AGL centred on a previously deployed sonobuoy. After reaching the end of our west bound leg we turned east and proceeded back to the sonobuoy at 250 KIAS, 1 500 feet and on a heading of 090 magnetic. Shortly after commencing this leg the Flight Engineer called traffic at our altitude opposite direction and closing. I sighted 2 small aircraft at our 11 o'clock at our altitude, opposite heading passing to the north at 500 to 1 000 yards. Sufficient separation existed so no evasive action was taken and we continued to complete our range run. We completed one more run to the east side of the buoy, returned to it and departed station to return to base;" and

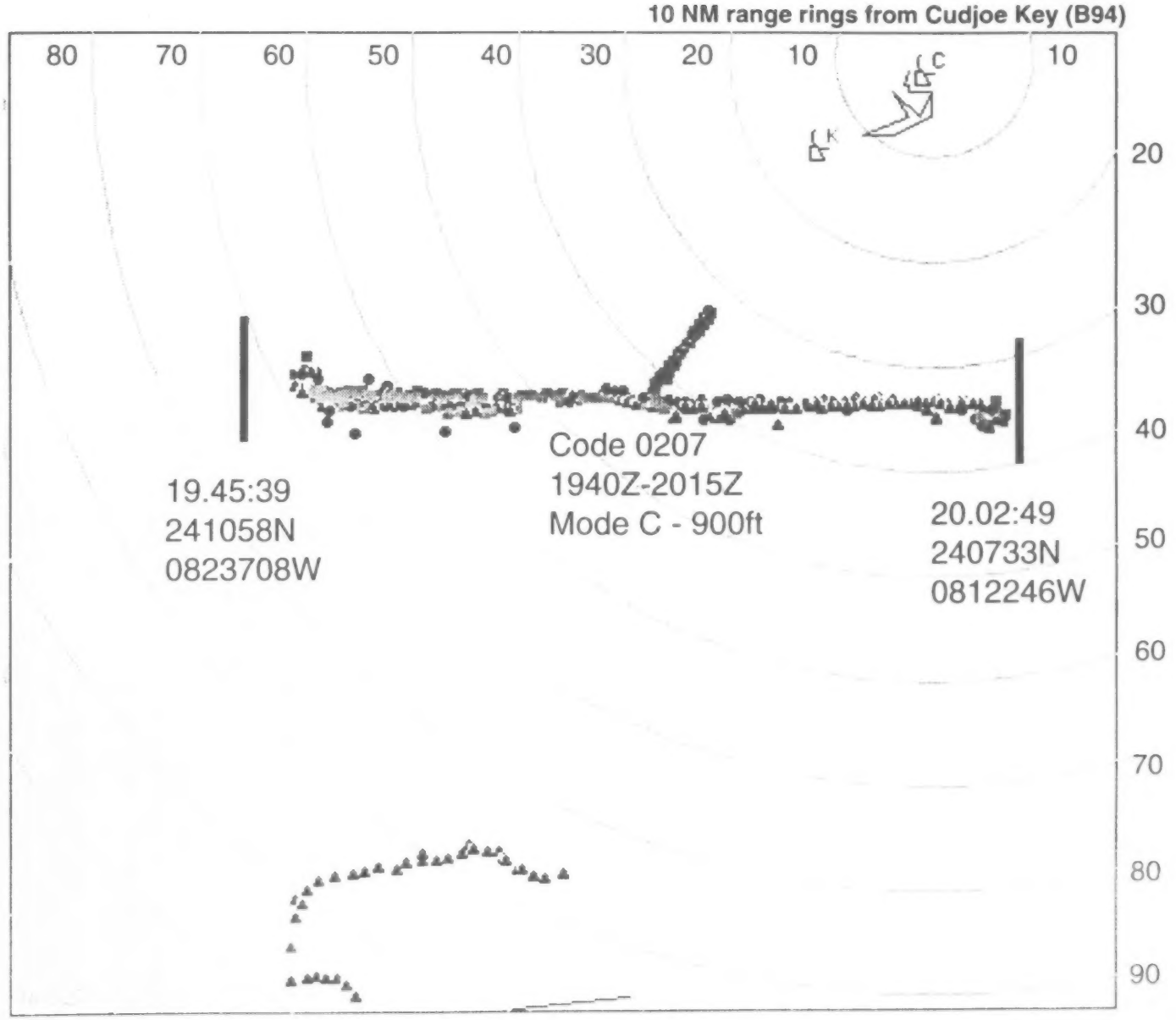

Chart 16 - The flight of US Navy P-3 Orion as recorded by United States radar

"At no time did we establish communication with the subject aircraft. We were operating VFR, using a working frequency in the UHF range to maintain communication with the "38" boat which was adjacent to the deployed sonobuoy. We were monitoring UHF guard and heard no traffic calls or any other communication on 243.0 MHz. All of this occurred at the end of a planned 6-hour mission, and since we were approaching our minimum recommended fuel reserve of 8 000 lbs we proceeded directly to NAS Key West after checking off station with the "38" boat. During the flight we were in communication with Miami Center, Key West Departure and Approach control and NAS Key West tower during transit to and from our operating area. From time of sighting the aircraft until touchdown was approximately 30 minutes."

2.4 Flight planning and changes

2.4.1 The planned route for the VFR flight of the three Cessna aircraft would cross MUD-8, MUD-9 and MUD-14 danger areas within Havana FIR, promulgated as being active from 08:00 to 18:30 hours from 21 to 28 February 1996. NOTAMs A0268/96, A0269/96 and A0270/96 had been issued on 19 February 1996. In accordance with the United States Aeronautical Information Manual (AIM), it was the responsibility of the pilots to review current NOTAMs for foreign locations. NOTAMs were included in the publication "International Notices to Airmen", published bi-weekly. In addition, the AIM stated that "current foreign NOTAMs are also available from the U.S. International NOTAM Office in Washington, D.C., through any local FSS [flight service station]". The pilot who submitted the flight plans for the Cessna aircraft confirmed to Miami AIFSS that he had checked the applicable NOTAMs. There was no obligation for Miami AIFSS to point out specifically that the flights would cross active danger areas.

2.4.2 Acceptance of the flight plans by Miami AIFSS did not imply its approval or its responsibility for the aircraft to remain clear of Cuban airspace. This responsibility remained with the pilot. The AIM stated: "Foreign airspace penetration without official authorization can involve both danger to the aircraft and the imposition of severe penalties and inconvenience to both passengers and crew. A flight plan on file with the ATC authorities does not necessarily constitute the prior permission required by certain other authorities. The possibility of fatal consequences cannot be ignored in some areas of the world."

2.4.3 The three aircraft deviated from the route given in the VFR flight plans. Annex 2 to the Convention on International Civil Aviation stated that, for a VFR flight not operating as a controlled flight, "significant changes to a flight plan shall be reported as soon as practicable to the appropriate air traffic services unit." The term "significant change" was not defined.

2.4.4 A flight plan was required for any flight crossing the Miami/Havana FIR boundary. Cuban regulations required all flights from other countries into Cuba, or overflying Cuba through the designated corridors, to be conducted under instrument flight rules (IFR).

2.5 Interception procedures

2.5.1 Principles and signals

2.5.1.1 ICAO Annex 2, paragraph 3.8.1 governing interception of civil aircraft states that "...in drafting appropriate regulations and administrative directives, due regard shall be had to the provisions of Appendix 1, Section 2 [Signals for use in the event of interception] and Appendix 2, Section 1 [Principles to be observed by States]". Appendix 2, section 1 read as follows:

"1. Principles to be observed by States

1.1 To achieve the uniformity in regulations which is necessary for the safety of navigation of civil aircraft due regard shall be had by Contracting States to the following principles when developing regulations and administrative directives:

a) interception of civil aircraft will be undertaken only as a last resort;

b) if undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;

c) practice interception of civil aircraft will not be undertaken;

d) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and

e) in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note.— In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis to the Convention on International Civil Aviation, the Contracting States have recognized that 'every State must refrain from resorting to the use of weapons against civil aircraft in flight.'

1.2 Contracting States shall publish a standard method that has been established for the manoeuvring of aircraft intercepting a civil aircraft. Such method shall be designed to avoid any hazard for the intercepted aircraft.

Note.— Special recommendations regarding a method for the manoeuvring are contained in Attachment A, Section 3.

1.3 Contracting States shall ensure that provision is made for the use of secondary surveillance radar, where available, to identify civil aircraft in areas where they may be subject to interception."

2.5.1.2 The signals for use in the event of interception, as contained in Annex 2, Appendix 1, Section 2, were also contained in AIP Cuba.

2.5.2 **Interception procedures used by Cuba**

2.5.2.1 Flight plan information on N2506, N2456S and N5485S had been transmitted to Havana ACC. The three aircraft contacted Havana ACC prior to entering Havana FIR, confirming their assigned transponder codes. Through the military liaison officer, this information was made available to CNCPV, and the Cuban air defence was thus informed. Havana ACC alerted the aircraft to the active danger areas.

2.5.2.2 The ICAO Council's special recommendations recognized that "It is essential that close co-ordination be maintained between an intercept control unit and the appropriate air traffic services unit during all phases of an interception of an aircraft which is, or might be, a civil aircraft, in order that the air traffic services unit is kept fully informed of the developments and of the action required of the intercepted aircraft." Havana ACC was not informed of developments during the interceptions of the Cessna aircraft.

2.5.2.3 The Cuban military ground control did not establish radio communications with the aircraft, either on the Havana ACC frequency used by the three Cessna aircraft or on the emergency frequency 121.5 MHz. The Cuban military interceptor aircraft patrolling the coastal area north of Cuba were directed towards a radar contact by their ground control. They did not attempt to establish radio communications with the Cessna aircraft. Therefore, not all means other than interception had been exhausted in accordance with principle 1.1 a), as contained in Appendix 2 to Annex 2, that interception of civil aircraft will be undertaken only as a last resort.

2.5.2.4 Principle 1.2 called for publication of a standard method for the manoeuvring of aircraft intercepting a civil aircraft, which shall be designed to avoid any hazard for the intercepted aircraft. The special recommendations of the ICAO Council stated that "Such method should take due account of the performance limitations of civil aircraft, the need to avoid flying in such proximity to the intercepted aircraft that a collision hazard may be created and the need to avoid crossing the aircraft's flight path or to perform any other manoeuvre in such a manner that the wake turbulence may be hazardous, particularly if the intercepted aircraft is a light aircraft." Specific manoeuvres were recommended for interception, and illustrated in the *Manual concerning Interception of Civil Aircraft* (Doc 9433). AIP Cuba contained the same specific manoeuvres by intercepting aircraft.

2.5.2.5 The MiG-29 pilot stated that, having established visual contact, he made a warning pass on the first Cessna (N2456S). Such a warning pass was not contained in the interception manoeuvres recommended by ICAO and published in AIP Cuba. The available radar information did not enable an assessment of the manoeuvres of the MiG-29 aircraft in close proximity to N2456S. There was no evidence that the MiG-29 initiated the required signals for interception as published in Annex 2 and in AIP Cuba.

2.5.2.6 The interception of the second Cessna (N5485S) was similar to the first interception.

2.5.2.7 Means other than interception were available to Cuba, such as radio communication, but had not been utilized. This conflicted with the ICAO principle that interception of civil aircraft should be undertaken only as a last resort. During the interceptions, no attempt was made to direct N2456S and N5485S beyond the boundaries of national airspace, guide them away from a prohibited, restricted or danger area or instruct them to effect a landing at a designated aerodrome. In executing the interception, the standard procedures for manoeuvring and signals by the military interceptor aircraft, in accordance with ICAO provisions and as published in AIP Cuba, were not followed.

2.6 Brothers to the Rescue

2.6.1 The Brothers to the Rescue was a group formed in 1991, based in Miami. It was formed to search for, and assist, Cuban rafters fleeing the island. It was a volunteer pilots group, funded by voluntary contributions. The pilots flew search missions over the waters of the Florida Straits.

2.6.2 Prior to 9 September 1994, the United States allowed entry into its territory of refugees from Cuba. On that date, an agreement was signed between the two States to regulate the migration

situation. Thereafter, refugees were no longer admitted to the United States but were instead sent to the United States Guantánamo Naval Base. Subsequent to the conclusion of an agreement on 2 May 1995 between the two States, Cuban refugees were returned to Cuba.

2.6.3 Before the 2 May 1995 agreement, the Brothers to the Rescue would often inform the United States Coast Guard of the dates of their intended flights. When rafters were spotted by the Brothers to the Rescue, the Coast Guard was informed of the positions so that the rafters could be rescued. After the 2 May 1995, the contacts between the Brothers to the Rescue and the Coast Guard withered away because rafters rescued by the Coast Guard were returned to Cuba.

2.6.4 In addition to their search missions, the Brothers to the Rescue also provided assistance to Cubans in refugee camps, including those in the Bahamas.

2.6.5 In an interview published in the Miami Herald on 8 March 1996, the President of the group, Mr. Basulto, said that the group had flown approximately 1 800 missions, but had not spotted any rafters since August 1995. When interviewed by the ICAO team, he stated that the group had "saved more than 4 000 Cubans."

2.6.6 According to the authorities in Cuba, apart from the search missions, the group devoted itself from the time of its inception to political, subversive and para-military activities against Cuba. The provocative actions of the group increased after the migration agreements led to an elimination of irregular migration, and the group became "systematically devoted to the violation of Cuban airspace." The authorities in Cuba further stated that, members of the group, *inter alia*, dropped subversive propaganda over Cuban territory, threw objects from their aircraft, disrupted and interfered with Cuban air traffic radio communications and that the pilots did not listen to communications from Havana ATC or follow their flight plans.

2.6.7 At the invitation of the authorities in Cuba, the ICAO team interviewed Mr. Juan Pablo Roque, a former Cuban MiG pilot. He arrived as a refugee in the United States in 1992, via Guantánamo Naval Base. In 1993, he made contact with Mr. Basulto and joined the Brothers to the Rescue.

2.6.8 According to Mr. Roque, he began to be "trained to violate Cuban airspace." He stated that the pilots of the group would file flight plans for the Bahamas, but would in fact enter Cuban airspace. He said that he personally violated Cuban airspace over 12 times, the last time being 9 January 1996 when "We approached the northern shores of Havana and threw out thousands of leaflets [that] called people to civil disobedience." On 13 July 1995, when flying with the group, he threw pamphlets and smoke bombs. He said that he was the one who did the most violations of Cuban airspace. He also said that on several occasions, he flew in an aircraft with United States Air Force markings and that some of the aircraft which flew with the Brothers to the Rescue were military versions of Cessna 337 (0-2). He stated further the group had planned to introduce anti-personnel weapons into Cuba and to blow up high tension pylons to interrupt the energy supply. On 23 February 1996 he clandestinely left his Miami home. He stated that he arrived in Cuba on 25 or 26 February 1996.

2.6.9 According to the authorities in the United States, Mr. Roque volunteered in 1993 to provide information to the FBI "regarding the possible criminal activities of individuals involved in anti-Castro groups in the south Florida area. One of these groups was Brothers to the Rescue." The authorities stated that Mr. Roque "provided information on approximately 30 occasions, beginning in the summer of 1993, and ending in late November 1995. Several of the reports concerned individuals involved in drug trafficking. ...Twelve of the contacts were related to the Brothers to the Rescue. These

reports include discussions of possible plans to smuggle or airdrop weapons into Cuba, and other plans to violate Cuban airspace."

2.6.10 In an article published in the Miami Herald on 8 March 1996, Mr. Basulto was quoted as saying:

> "...We are in a mode of confrontation with the Cuban government. It's a civic confrontation. I think the next move is for the Cuban people, within Cuba."
>
> "Remember this, we're just one factor. The main protagonists of this are things like Concilio Cubano..., forces within the island that are getting themselves together. They need to be reinforced and supported from the outside. I believe that what we did [by dropping leaflets with the U.N. (*sic*) Declaration of Human Rights] was to boost their morale."
>
> "I am orienting all my resources to the people in Cuba. I'm trying to place this in its proper context which is a confrontation between Castro and the Cuban people. I consider myself part of that."

2.6.11 When interviewed by the ICAO team, the occupants of N2506 explained that the week before 24 February 1996, there were newspaper reports of a sighting of about ten rafters leaving Cuba. When a planned flight on 24 February 1996 to the Bahamas was cancelled because of a riot at the destination refugee camp, the group decided to fly a search and rescue mission in the Florida Straits.

2.7. **Actions taken by the United States authorities**

2.7.1 FAA addressed a letter of investigation dated 3 August 1995 to Mr. José Basulto, c/o Brothers to the Rescue, as follows:

> "On July 13, 1995, you were the Pilot-in-Command of aircraft N2506. On that date, you operated that aircraft from Opa Locka Airport, Miami, Florida, to a point or points inside the Havana Flight Information Region and inside the Havana Terminal Control Area without clearance. Activities of this type are contrary to Federal Aviation Regulations.
>
> This letter is to inform you that this matter is under investigation by the Federal Aviation Administration. We would appreciate receiving any evidence or statements you might care to make regarding this matter within ten (10) days of receipt of this letter ..."

2.7.2 On 31 August 1995, FAA issued a "Notice of Proposed Certificate Action" to Mr. Basulto, which stated:

> "...
>
> 2. On or about July 13, 1995, you operated civil aircraft N2506, a Cessna 337, the property of another, on a passenger carrying flight departing from Opa Locka Airport, Miami, Florida.
>
> 3. During the course of said flight you operated N2506 into the Cuba Flight Information Region.

4. During the course of said flight you operated N2506 into and through the Cuba Air Defense Identification Zone (ADIZ).

5. During the course of said flight you operated N2506 into the Havana, Cuba, Terminal Control Zone.

6. At the time of your operation of N2506 into the Cuba Flight Information Region, Cuba ADIZ, and Havana, Cuba, Terminal Control Zone, you did not have a clearance from the Cuban government air traffic control authority for entry into, and operation within, that airspace.

7. As a result, you violated the following sections of the Federal Aviation Regulations:

   a. Section 91.703(a)(2) in that you operated a civil aircraft of U.S. registry within a foreign country and you did not comply with the regulations relating to the flight and manoeuvre of aircraft there in force;

   b. Section 91.703(a)(3), and Section 91.13(a), in that you operated a civil aircraft of U.S. registry within a foreign country in a careless or reckless manner so as to endanger the life or property of another.

Taking into consideration all of the circumstances of this case, we propose, pursuant to the authority vested in the Administrator by 49 U.S.C. Section 44709, to issue an Order suspending any and all Commercial Pilot certificates you hold for a period of one hundred and twenty (120) days.

An Order for such suspension will be issued unless, on or prior to fifteen (15) days after your receipt of this letter, you elect to proceed in accordance with the enclosed information with respect to certificate action."

2.7.3 On 21 September 1995, Mr. Basulto requested an informal conference on his proposed 120-day suspension. The informal conference was not held.

2.7.4 The FAA addressed another letter of investigation dated 4 April 1996 to Mr. José Basulto, as follows:

"Personnel of this office are investigating incidents that occurred on January 9, January 13, and February 24, 1996 which involved the operation of Cessna N2506 in the territorial airspace of the Republic of Cuba. These operations were conducted without authorization. Information indicates you were Pilot-in-Command of N2506, in one or more of these incidents. Activities of this type are contrary to Federal Aviation Regulations.

This letter is to inform you that this matter is under investigation by the Federal Aviation Administration. We would appreciate receiving any evidence or statements you might care to make regarding this matter within ten (10) days of receipt of this letter ..."

2.7.5 In response to questions by the ICAO team, the authorities in the United States provided an explanation of the specific Federal Aviation Regulations believed to have been violated by Mr. Basulto:

"The Federal Aviation Regulations that Mr. Basulto was alleged to have violated on July 13, 1995, are 14 CFR 91.703(a)(2) (a civil aircraft of U.S. registry operating within a foreign country must comply with the regulations relating to the flight and manoeuvre of aircraft there in force); 14 CFR 91.703(a)(3) (such aircraft must be operated in accordance with most provisions of Part 91 so far as they are not inconsistent with the regulations of the foreign country or Annex 2 of the Convention on International Civil Aviation). In this situation, the Part 91 rule involved is 14 CFR 91.13(a) (prohibits careless or reckless operation of an aircraft). The investigation into the incidents of January and February 1996 is not completed, but any enforcement action that might result would likely involve the same regulations."

2.7.6 The authorities in the United States also provided "a statement regarding the timeliness of the MIA FSDO's handling of the above investigative and enforcement matters." which read as follows:

"The Miami Flight Standards District Office (FSDO) began the enforcement action involving the July 13, 1995 incident, and has been the office primarily responsible for investigation of the alleged incidents in January and February 1996. ...

The July 13, 1995 overflight incident became known to the FSDO on July 13 after it occurred. The enforcement investigative report (EIR) was signed out of the Miami FSDO on August 18, 1995. Review of the EIR by the Flight Standards division in the regional office was completed on August 25, 1995. On August 31, 1995, the Assistant Chief Counsel for the Southern Region issued a notice of proposed certificate action, proposing the suspension of Mr. Basulto's pilot certificate for 120 days. The quickness with which the FAA issued the notice reflected the FAA's interest in deterring other possible regulatory violations in connection with a flotilla event scheduled for September 2. (The Government of the Republic of Cuba had previously conveyed to the FAA its concern regarding unauthorized entry of U.S.-registered civil aircraft into Cuban airspace.)

The FAA, through the Department of State, requested that the Cuban Government provide evidentiary materials that support the proposed certificate action. The matter requested included copies of the pertinent Cuban regulations violated and statements by air traffic controllers who had observed the flight into Cuban airspace. These items of evidence were requested from the Cuban Government in order to officially confirm elements of the violations alleged: e.g., that Cuban regulations prohibited the July 13 overflight, and that the Cuban air traffic control authority had not authorized Mr. Basulto's entry into Cuban airspace. The requested evidentiary materials were received by the FAA in December, but still needed to be translated into English. The translation was not completed until early February 1996. On February 14, 1996, the FAA asked the Department of State to request additional, specific information related to the sworn statement of a Cuban air traffic controller, which statement had earlier been provided by the Cuban Government.

Several days before the February 24 incident the FAA received information from the Cuban Government relating to an alleged unauthorized entry into Cuban airspace on January 13. Prior to receipt of that information, FAA efforts to substantiate Cuban complaints that violations had occurred on January 9 and 13, 1996 had been unsuccessful. Following the February 24 incident and the receipt of information from Cuba regarding

January 13, the FAA opened an investigation of the alleged incidents of January 9 and 13 and the February incident. That investigation continues. The outcome of the investigation could well affect the already-initiated enforcement action concerning the July 13 incident. Accordingly, no action has been taken to convene the informal conference between Mr. Basulto and his attorney and the FAA's attorneys on the notice proposing to suspend his pilot certificate for the July 13 incident. (An informal conference is a step in the enforcement process following issuance of a notice of proposed certificate action.)"

2.7.7 On 29 February 1996, the FAA issued an Emergency Cease and Desist Order and Notice of Enforcement Policy, which read in part:

"... Unauthorized operation of U.S.-registered civil aircraft in Cuban territorial airspace is prohibited by the Federal Aviation Regulations. The United States Government has issued statements warning of the serious consequences that could occur should any person conduct such operations.

Notwithstanding such advice and warnings of the United States Government and the unlawfulness of the conduct, operations without authorization in Cuban territorial airspace have occurred.

Based on the circumstance described above, I find that an emergency exists relating to safety in air commerce, and that there is an immediate need to take action for reasons of safety of flights in the vicinity of the Florida Straits and to ensure against the unauthorized entry of U.S. civil aircraft into Cuban territorial airspace. Unauthorized operation of U.S.-registered civil aircraft into the territorial airspace of the Republic of Cuba is prohibited.

NOW, THEREFORE, IT IS ORDERED that any person holding a U.S. airman certificate and/or operating U.S.-registered civil aircraft, who has conducted unauthorized operations within Cuban territorial airspace, CEASE AND DESIST from this unlawful activity.

IT IS FURTHER ORDERED that all persons holding U.S. airman certificates and/or operating U.S.-registered civil aircraft comply with the Federal Aviation Regulations prohibiting unauthorized operation within Cuban territorial airspace.

ENFORCEMENT POLICY

TAKE NOTICE that, effective immediately, any person who makes unauthorized entry into the territorial airspace of the Republic of Cuba in violation of the Federal Aviation Regulations will be subject to enforcement action to the maximum extent permitted by law, including, but not limited to the following:

Immediate revocation of pilot certificate;
Maximum civil penalties;
Seizure of aircraft involved in such a violation; and
Appropriate judicial remedies.

(Authority: 49 U.S.C. Sections 40113(a), 44709, 46105(c), 46301, 46304(b), 46106, and 46107.)

Further, any person who operates or attempts to operate an aircraft after pilot certificate revocation, or otherwise without a valid airman certificate, is subject to criminal penalties of up to 3 years in prison, and/or fines (49 U.S.C. Section 46306(b)(7))."

2.7.8 On 1 March 1996, the U.S. authorities issued FDC NOTAM 6/1335 which read:

"Due to recent incidents involving civil aircraft of U.S. registry the FAA recommends that any operators conducting flight in the Florida Straits and nearby international waters remain vigilant for other air traffic in the area and strictly abide by the international and FAA Federal Aviation Regulations. The Administrator has issued a Cease and Desist Order and Notice of Enforcement Policy effective February 29, 1996. Any person holding a U.S. airman certificate and/or operating U.S.-registered civil aircraft shall comply with Federal Aviation Regulations prohibiting unauthorized operation within Cuban territorial airspace. Unauthorized entry into this airspace will subject the individual to enforcement action to the maximum extent permitted by law, including: revocation of pilot certificate, maximum civil penalties, seizure of aircraft, and judicial remedies. Further, any person attempting to operate an aircraft after revocation or without a valid certificate is subject to criminal penalties of up to 3 years in prison and/or fines."

Accompanying GENOT RWA 6/18 mandates that FDC NOTAM 6/1335:

"... be briefed to all flights with destinations in the Florida Straits or nearby international waters. The contents of FDC NOTAM 6/1335 shall be read verbatim .... This referenced NOTAM will be read verbatim each time a flight plan is filed."

2.7.9 On 7 March 1996, a "Letter to Airmen" was issued by the FAA, intended to provide "the broadest notice" of the Cease and Desist Order and the Notice of Enforcement Policy. The letter stated that:

"FAA has been given access to and will use all available government radar sources to establish whether Cuban airspace has been violated. Airmen should be aware that if the evidence obtained from any source establishes a violation of Cuban airspace, their airmen certificates will be revoked on an emergency basis. In addition, maximum civil penalties, seizure of aircraft and judicial remedies will be pursued in appropriate cases."

2.7.10 On 16 May 1996, the FAA issued an "Emergency Order of Revocation" of Mr. Basulto's commercial pilot certificate. The Order stated that the Administrator of the FAA had determined that safety in air commerce or air transportation and the public interest required the immediate revocation of said certificate.

2.7.11 The Order stated that on or about 11 July 1995, representatives of the Miami FSDO met with Mr. Basulto in his capacity as President of the Brothers to the Rescue and advised him of the potential serious consequences of unauthorized entry into Cuban territorial airspace and that any violations of FARs or international regulations would be vigorously investigated. It further stated that on or about 13 July 1995, Mr. Basulto operated civil aircraft N2506 on a passenger-carrying flight departing from Opa Locka Airport into the territorial airspace of Cuba, into the Havana, Cuba, Terminal Control Zone

and into Prohibited Area MUP-1 of Cuba. At all relevant times, these areas were either restricted areas or prohibited areas. At the time of such operation of N2506, Mr. Basulto "did not have authorization from the Cuban government air traffic control authority for entry into, and operation within, that airspace." Such unauthorized entry and operation was contrary to certain specified laws of Cuba.

2.7.12 The Order continued by stating that on or about 24 February 1996, Mr. Basulto operated civil aircraft N2506 on a flight departing from Opa Locka Airport, on a VFR flight plan, into the territorial airspace of Cuba which was at all relevant times a restricted area or prohibited area of Cuba. At the time of operation, Mr. Basulto did not have authorization from the Cuban government air traffic control authority for entry into, and operation within, that airspace, contrary to specified Cuban laws.

2.7.13 The Order stated that Mr. Basulto's operation of N2506 was careless or reckless so as to endanger the lives or property of others, and that he had demonstrated that he lacked the degree of care, judgement and responsibility required of the holder of an airman certificate.

2.7.14 The Order specified that Mr. Basulto had violated:

1) Section 91.703(a)(2) of the FARs (operation of a civil aircraft of U.S. registry within a foreign country and not complying with the regulations relating to the flight and manoeuvre of aircraft there in force), in particular, by violating certain listed laws and regulations of Cuba;

2) Sections 91.703(a)(3) and 91.13(a) of the FARs (operation of a civil aircraft of U.S. Registry within a foreign country in a careless or reckless manner so as to endanger the life and property of another).

The Order was made effective immediately on the basis that an emergency requiring immediate action existed.

3. CONCLUSIONS

3.1 The authorities in Cuba notified the authorities in the United States of multiple violations of Cuban territorial airspace, which took place on seven specific dates from 15 May 1994 to 4 April 1995, by aircraft operating out of the United States, and repeatedly demanded that the United States adopt measures to put an end to these violations.

3.2 At least one aircraft, N2506, overflew the city of Havana at low altitude on 13 July 1995, and released some leaflets and religious medals. Cuba requested the United States to prevent such violations.

3.3 In a public statement issued on 14 July 1995, the government of Cuba declared its firm determination to take all the necessary steps to prevent provocative actions and warned that any aircraft intruding into Cuban territorial airspace may be shot down.

3.4 According to the authorities in Cuba, two light aircraft violated Cuban territorial airspace on 9 and 13 January 1996, and released leaflets which fell on Cuban territory. According to the pilot of one of the aircraft, N2506, half a million leaflets were released on 13 January 1996; on both dates they were released outside the 12 NM Cuban territorial limit and the wind carried them to Havana.

3.5 Prior to 24 February 1996, the United States authorities issued public statements and NOTAMs, advising of the potential consequences of unauthorized entry into Cuban airspace, and initiated legal actions against the pilot of N2506.

3.6 Under Article 12 of the Chicago Convention, each contracting State undertakes to adopt measures to insure that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and manoeuvre of aircraft there in force.

3.7 The Brothers to the Rescue was a volunteer group of pilots, based in Miami, Florida, United States, formed to search for, and assist, Cuban rafters fleeing the island. There was evidence to indicate that some members of the group sought to influence the political situation in Cuba.

3.8 After the events on 9 and 13 January 1996, the authorities in Cuba realized that control of the Brothers to the Rescue Organization was beyond the United States government; the Commander of the Anti-Aircraft Defence and the Air Force of Cuba was instructed that violations of Cuban territorial airspace should no longer be tolerated, and he was authorized, if such a situation arose again, to decide personally on military interception and shooting down, if so required.

3.9 On 23 February 1996, the Department of State in the United States alerted FAA/AIA to the tense situation in Cuba and the possibility that the Brothers to the Rescue might attempt an unauthorized flight into Cuban airspace; FAA/AIA alerted FAA Headquarters, FSDO, FAA in Miami, and the military liaison officer at Miami ARTCC.

3.10 On 24 February 1996, the Department of State in the United States requested, through the FAA Operations Center in Washington, D.C., information on the departure of Brothers to the Rescue aircraft. In addition to FAA facilities, other agencies, including Customs, had been notified. According to the authorities in the United States, any incursions into Cuban territorial airspace were to be documented for compliance/enforcement purposes.

3.11 N2456S, N5485S and N2506 deviated from the route given in their VFR flight plans; they were flying within the MUD-8 and MUD-9 danger areas within Havana FIR, promulgated as being active on 24 February 1996.

3.12 At 15:21 hours on 24 February 1996, N2456S was destroyed by an air-to-air missile fired by a Cuban MiG-29 military aircraft.

3.13 At 15:27 hours on 24 February 1996, N5485S was destroyed by an air-to-air missile fired by a Cuban MiG-29 military aircraft.

3.14 There were significant differences between the Cuban military radio communications recordings provided by Cuba and by the United States. Several transmissions in the recording provided by the United States could not be found in the recording provided by Cuba, all of which related to vessels in the area of shoot-down. The differences could not be explained as the result of simultaneous transmissions recorded differently by different stations, nor could they be explained as the result of technical difficulties in the recording.

3.15 There were significant differences between the radar data provided by Cuba and by the United States, which could not be reconciled.

3.16 The recorded positions and track of the *Majesty of the Seas*, the observations by its crew and passengers, the position of the *Tri-Liner* relative to the *Majesty of the Seas*, and the resulting estimated locations of the shoot-downs were considered to be the most reliable position estimates.

3.17 No corroborative evidence of the position of the *Majesty of the Seas* was obtained. With this qualification and based on the recorded positions of the *Majesty of the Seas*, N2456S was shot down approximately at position 23 29N 082 28W, 9 NM outside Cuban territorial airspace and N5485S was shot down approximately at position 23 30.1 N 082 28.6W, 10 NM outside Cuban territorial airspace.

3.18 Means other than interception were available to Cuba, such as radio communication, but had not been utilized. This conflicted with the ICAO principle that interception of civil aircraft should be undertaken only as a last resort.

3.19 During the interceptions, no attempt was made to direct N2456S and N5485S beyond the boundaries of national airspace, guide them away from a prohibited, restricted or danger area or instruct them to effect a landing at a designated aerodrome.

3.20 In executing the interception, the standard procedures for manoeuvring and signals by the military interceptor aircraft, in accordance with ICAO provisions and as published in AIP Cuba, were not followed.

3.21 The Protocol introducing Article 3 *bis* into the Chicago Convention had not entered into force. Neither Cuba nor the United States had ratified it.

3.22 The rule of customary international law that States must refrain from resorting to the use of weapons against civil aircraft in flight, as codified in Article 3 *bis* of the Chicago Convention, and the ICAO provisions concerning interception of civil aircraft, apply irrespective of whether or not such aircraft is within the territorial airspace of that State.

4. RECOMMENDATIONS

4.1 Every Contracting State to the Chicago Convention should, in the light of Assembly Resolutions A25-2 and A31-15, Appendix C, and Council resolutions and decisions, ratify the Protocol introducing Article 3 *bis* into the Convention;

4.2 Pending ratification and formal entry into force of the Protocol introducing Article 3 *bis* into the Convention, States should comply with all the provisions of the Protocol.

GLOSSARY

ACC	Area Control Centre
ADF	Automatic Direction Finder
ADIZ	Air Defence Identification Zone
AIFSS	Automated International Flight Service Station
AIM	Aeronautical Information Manual (United States)
AIP	Aeronautical Information Publication
AMIS	Aircraft Movement Information Service
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATS	Air Traffic Services
CARIBROC	Caribbean Regional Operations Center (United States)
cm	Centimetre(s)
CNCPV	Joint National Centre for Flight Planning (Cuba)
CTA	Control Area
CVR	Cockpit Voice Recorder
DAICC	Domestic Air Interdiction Co-ordination Center, Customs (United States)
°C	Degrees Centigrade
°T	Degrees True
DFDR	Digital Flight Data Recorder
DME	Distance Measuring Equipment
FAA	Federal Aviation Administration (United States)
FAR	Federal Aviation Regulation (United States)
FBI	Federal Bureau of Investigation (United States)
FDR	Flight Data Recorder
FIR	Flight Information Region
FL	Flight Level
FSDO	Flight Standards District Office, FAA (United States)
FSS	Flight Service Station (United States)
ft	Foot/feet
GPS	Global Positioning System
HF	High Frequency (3 000 to 30 000 kHz)
hPa	Hectopascal
IACC	Civil Aviation Institute (Cuba)
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
INS	Inertial Navigation System
kg	Kilogram(s)
kHz	Kilohertz
km/h	Kilometres per hour

km	Kilometre(s)
kt	Knot(s)
lb	Pound(s)
m	Metre(s)
MHz	Megahertz
mm	Millimetre(s)
MUD	Danger area designated by Cuba
MUP	Prohibited area designated by Cuba
N	North
NBC	National Broadcasting Corporation (United States)
NM	Nautical Mile(s)
NORAD	North American Air Defense (United States)
NOTAM	A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations
NTSB	National Transportation Safety Board (United States)
PSR	Primary Surveillance Radar
QNH	Altimeter sub-scale setting to indicate elevation (above mean sea level) when on the ground
RAC	Rules of the Air and Air Traffic Control
SAR	Search and Rescue
SEAD	South East Air Defense sector, NORAD (United States)
SIGMET	Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.
SSR	Secondary Surveillance Radar
STOL	Short Take-off and Landing
TWR	Aerodrome Control Tower
UHF	Ultra High Frequency (300 to 3 000 MHz)
UTC	Co-ordinated Universal Time
VFR	Visual Flight Rules
VHF	Very High Frequency (30 to 300 MHz)
VOR	VHF Omnidirectional Radio Range
W	West

- END -

Enclosure 3*

[Original: English/Spanish]

Information Paper No. 1
Related to C-WP/10441
RESTRICTED
(English Only)
19/6/96

COUNCIL – 148TH SESSION

Subject No. 14: Subjects Relating to Air Navigation

REPORT OF THE ICAO FACT-FINDING INVESTIGATION REGARDING THE SHOOTING DOWN OF TWO U.S.-REGISTERED PRIVATE CIVIL AIRCRAFT BY CUBAN MILITARY AIRCRAFT ON 24 FEBRUARY 1996

INFORMATION PAPER NO. 1

(Presented by the Secretary General)

This Information Paper No. 1 related to C-WP/10441 Restricted is issued as background information and reproduces material that is available in English and partially in Spanish.

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* Circulated in the languages of submission only.

(145 pages)

BACKGROUND INFORMATION

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A. TRANSCRIPTS OF RADIO COMMUNICATIONS RELATED TO CESSNA T337H, N2506; CESSNA 337C, N2456S; AND CESSNA 337B, N5485S

This transcript covers the Brothers to the Rescue radio communications with Miami AIFSS; Opa Locka TWR, ground and local control; Havana ACC; and United States Naval Air Station, Key West. It also covers communications between Havana ACC and Miami ARTCC; and some landline communications between Opa Locka TWR ground control and Miami AIFSS, and between Opa Locka TWR local control and Miami ARTCC. The transcript covers time periods from 09:07 to 17:14 hours on 24 February 1996. The transcript is based on the original transcripts provided by the authorities in Cuba, in the United States and by the Brothers to the Rescue (BTTR).

Note.- The times are local time in Havana, Cuba and local time in Miami, Florida, United States, which is Eastern Standard Time (EST). Local time in both Havana and Miami is Co-ordinated Universal Time (UTC) -5 hours.

1. FILING OF FLIGHT PLANS

This portion of the transcript concerns communications recorded at Miami AIFSS, preflight 14 position, from 09:07 to 09:34 hours on 24 February 1996.

TIME	STATION	TRANSMISSION
09:12:15	Miami AIFSS	Miami Flight Service
09:12:18	BTTR	I.. I'd like to file some flight plans
09:12:20	Miami AIFSS	Domestic or internationals?
09:12:21	BTTR	International VFR
09:12:23	Miami AIFSS	Go ahead
09:12:24	BTTR	Okay, first aircraft November two five zero six, Cessna three three seven, with Romeo, true airspeed one hundred twenty knots departing OPF proposed at fifteen fifteen zulu. Cruising altitude five hundred feet, route of flight is Opa Locka and I'm going to give you some co-ordinates, direct to two four zero zero north, eight zero two five west, from there to two three three zero north, eight zero two five west
09:13:02	Miami AIFSS	Eight zero two five?
09:13:06	BTTR	Yes ... from there to two three zero north, eight two four five west .. from there, ah, two four zero zero north, eight two four five west and from there to Opa Locka ... destination is Opa Locka. Time en-route is five hours, ah, remarks, ah let's see this one is going to have .. should have two souls on board so we're going to have one four-to six-man yellow life raft.
09:13:44	Miami AIFSS	Okay, hold on, let me ask you a question. Is this, ah, different from what you guys normally do?
09:13:48	BTTR	No, it's not
09:13:50	Miami AIFSS	It's not? okay. Hold on a second because we got this in the system here ...
09:14:00	BTTR	They told me that the prestored was gone.
09:14:03	Miami AIFSS	They did?

TIME	STATION	TRANSMISSION
09:14:04	BTTR	Yeah, they did
09:14:05	Miami AIFSS	Okay
09:15:02	BTTR	You still looking for it?
09:15:06	Miami AIFSS	Yeah, okay. Yeah, like I see it now, here it's, ah, they've changed it and it's pretty much gone
09:15:13	BTTR	That's what that's what they told me
09:15:15	Miami AIFSS	Yeah, well, we .. they were just having a debate back here, somebody was saying it's here some saying it's not .. okay. Sorry to do this to you but, ah ..let me see, let me just put, ah, some of this back in here. ..... Okay, what was your proposal time off deck?
09:15:46	BTTR	Fifteen fifteen zulu
09:15:48	Miami AIFSS	And the airspeed?
09:15:49	BTTR	One hundred twenty knots
09:15:52	Miami AIFSS	All right
09:16:01	Miami AIFSS	Okay, sorry about that. I need one more time the co-ordinates
09:16:02	BTTR	Oh
09:16:03	Miami AIFSS	Go ahead
09:16:04	BTTR	Okay, ah .. let's see, I left you.. on destination, ah, that would be Opa Locka, or sorry, I left you on remarks, I believe
09:16:15	Miami AIFSS	No, ah, I need you to give me the co-ordinates again
09:16:17	BTTR	Oh, the co-ordinates again?
09:16:18	Miami AIFSS	Yeah
09:16:19	BTTR	Okay, two four zero zero north
09:16:21	Miami AIFSS	Oha
09:16:22	BTTR	Eight zero two five west
09:16:24	Miami AIFSS	Okay
09:16:25	BTTR	Two three three zero north, eight zero two five west, two three three zero north, eight two four five west and two four zero zero north, eight two four five west, that should be four sets of co-ordinates
09:16:43	Miami AIFSS	That's correct, okay
09:16:45	BTTR	Okay
09:16:47	Miami AIFSS	Now it's, ah, five hours?
09:16:48	BTTR	Five hours en-route, yes
09:16:50	Miami AIFSS	Okay, now remarks
09:16:51	BTTR	Remarks, one four-to-six man life raft and .. yellow, and two yellow life jackets on board
09:17:02	Miami AIFSS	Okay, how much fuel?
09:17:03	BTTR	Ah, six hours

TIME	STATION	TRANSMISSION
09:17:04	Miami AIFSS	And two on board?
09:17:05	BTTR	Two souls, yes
09:17:08	Miami AIFSS	What colour is the aircraft?
09:17:10	BTTR	This one is light blue, it's all light blue
09:17:14	Miami AIFSS	No stripes or anything on it?
09:17:15	BTTR	No stripes, no
09:17:16	Miami AIFSS	Okay
09:17:21	BTTR	The only thing I would say, ah, the spinners are yellow, but that's pretty much it
09:17:28	Miami AIFSS	Has something yellow on it?
09:17:28	BTTR	Yeah it does
09:17:28	Miami AIFSS	Okay, light blue and yellow. Okay, ah, and who is the pilot?
09:17:35	BTTR	Jose Basulto. You got the spelling on that or...
09:17:40	Miami AIFSS	Uh, I got it here
09:17:42	BTTR	Okay
09:17:44	Miami AIFSS	He actually flies, huh?
09:17:45	BTTR	Oh yeah
09:17:46	Miami AIFSS	(laughter)
09:17:47	BTTR	He flies
09:17:48	Miami AIFSS	Usually just see him on the ground there
09:17:50	BTTR	He flies quite a bit
09:17:52	MAIFSS	Okay ... ah, let's see. What's your number there?
09:17:56	BTTR	Six eight five - seven one zero one
09:18:02	Miami AIFSS	You guys are based at Opa Locka, right?
09:18:03	BTTR	Yes
09:18:04	Miami AIFSS	All right, stand by a moment
09:18:39	Miami AIFSS	Hold on one second
09:18:41	BTTR	Ah,ah
09:19:39	Miami AIFSS	All right guys ... it was so much easier when we had it in the uh .. in the computer
09:19:46	BTTR	I don't know why that's not there anymore
09:19:49	Miami AIFSS	Yeah, I mean now we have to do it all manually and we have to type a lot of stuff in here
09:19:52	BTTR	Yeah
09:19:53	Miami AIFSS	Hold on a second

TIME	STATION	TRANSMISSION
09:19:58	Miami AIFSS	All right, ah .... let me get a squawk code and put this on for you and I'll be right back
09:20:04	BTTR	Okay, I, I got five other airplanes so is its going to take a while I think
09:20:09	Miami AIFSS	Yeah, give me all the call signs
09:20:10	BTTR	Okay, second one is November two four five six sierra
09:20:17	Miami AIFSS	O ay, what's the third one?
09:20:19	BTTR	November five four eight five sierra, November one zero eight lima sierra
09:20:28	Miami AIFSS	Uhuh
09:20:29	BTTR	November two three two nine sierra and the last aircraft is November three one two mike x-ray, and that one that's a Cessna three ten
09:20:40	Miami AIFSS	Okay, let me get codes for all of those and I'll be right back
09:20:43	BTTR	All righty
09:20:44	Miami AIFSS	Right
09:22:46	Miami AIFSS	Okay, now, let me give you the squawk codes then we'll make the changes on the rest of them
09:22:51	BTTR	All righty
09:22:52	Miami AIFSS	The code for two five zero six is going to be twelve twenty-two
09:22:55	BTTR	Okay
09:22:57	Miami AIFSS	For five six sierra, its gonna be twelve twenty-three
09:23:01	BTTR	Okay
09:23:02	Miami AIFSS	For eight five sierra, its twelve twenty-four
09:23:06	BTTR	Okay
09:23:08	Miami AIFSS	For eight lima sierra, its twelve twenty five
09:23:12	BTTR	Okay
09:23:14	Miami AIFSS	Two niner sierra, twelve twenty-six
09:23:17	BTTR	Okay
09:23:18	Miami AIFSS	And two mike x-ray is gonna be twelve twenty-seven
09:23:21	BTTR	All righty
09:23:23	Miami AIFSS	All right, standby
09:24:14	Miami AIFSS	Okay, now we are on two four five six sierra, just give me the changes
09:24:18	BTTR	Okay, let's see, same type of aircraft airspeed departure, ah....
09:24:25	Miami AIFSS	Pilot's name?
09:24:27	BTTR	Carlos Costa
09:24:29	Miami AIFSS	C-O-S-T-A?
09:24:31	BTTR	Uh, uh ...and the aircraft is white and blue
09:24:38	Miami AIFSS	White and blue, let's see, a Skymaster also?

TIME	STATION	TRANSMISSION
09:24:42	BTTR	Yes
09:24:43	Miami AIFSS	All right I'll change the colour..... okay, now we're on, ah, eight five sierra, five four eight five sierra
09:25:05	BTTR	Okay, that one ... everything pretty much the same. Pilot's name Mario de la Pena
09:25:16	Miami AIFSS	D-E-L ah P-E-N-A?
09:25:19	BTTR	D-E-L-A P-E-N-A
09:25:32	Miami AIFSS	Five four eight five sierra and what colour is he, white and blue also?
09:25:36	BTTR	Ah, that one, yeah, white and blue. You could say it has a red stripe
09:25:41	Miami AIFSS	Ah
09:25:42	BTTR	But white and blue basically
09:25:44	Miami AIFSS	Let me put the red stripe on here when we look in its ... okay
09:25:56	BTTR	To be specific it has two red stripes but...
09:26:04	Miami AIFSS	That's okay. I just get all the colours on there. Let's see now
09:26:04	BTTR	Right
09:26:05	Miami AIFSS	Ahem, one zero eight lima sierra and is twelve twenty-five and what colour is he?
09:26:13	BTTR	Grey, grey with, ah, red spinner and wing tips
09:26:17	Miami AIFSS	Grey with red
09:26:18	BTTR	Yeah, grey red
09:26:20	Miami AIFSS	Who's the pilot?
09:26:22	BTTR	Ah, Benny Schuss
09:26:26	Miami AIFSS	Spell the last name
09:26:26	BTTR	Sierra charlie hotel uniform sierra sierra
09:26:33	Miami AIFSS	Standby
09:26:57	Miami AIFSS	Okay, what colour is this aircraft on, ah, two three two nine sierra?
09:27:01	BTTR	Ah, I'm trying to remember. Ah, I know it's grey
09:27:07	Miami AIFSS	You don t have this stuff written down in front of you? (laughter)
09:27:10	BTTR	Well the thing is I can't see it. It's..it's in such a way where I can't see it. The other ones I can just look out and see them. This one, ah, grey and blue
09:27:21	Miami AIFSS	Okay, who's the pilot?
09:27:23	BTTR	Ah, Carlos Tabernilla
09:27:26	Miami AIFSS	Spell that last name (laughter)
09:27:27	BTTR	Okay, that's T-A-B-E-R-N-I-L-L-A
09:27:34	Miami AIFSS	And Carlos heh?
09:27:35	BTTR	Uhuh

TIME	STATION	TRANSMISSION
09:27:39	Miami AIFSS	Tabernilla. Okay ... uh, let's see twelve twenty-six ..... and the last one, lets see three one two mike x-ray
09:27:52	BTTR	Uhuh, that's a Cessna three ten
09:27:57	Miami AIFSS	Yeah and he's the only one that doesn't end in "S" too
09:27:59	BTTR	That's right
09:28:00	Miami AIFSS	Besides two five zero six
09:28:02	BTTR	Yup
09:28:03	Miami AIFSS	That's part of the "S" team. Okay, let's see, twelve twenty-seven on this one and what colour is that aircraft?
09:28:09	BTTR	White with red and green stripes
09:28:14	Miami AIFSS	And they all just have two people on board?
09:28:16	BTTR	Yeah
09:28:17	Miami AIFSS	And who's driving this one?
09:28:19	BTTR	Uh, last name Sanchez, first name Alfredo
09:28:23	Miami AIFSS	Alfredo Sanchez ..... all right, okay, uh they're all on file. Have you checked any of the notams yet or anything?
09:28:38	BTTR	Yeah, yeah, we checked them
09:28:40	Miami AIFSS	You did all that already?
09:28:41	BTTR	Uh huh
09:28:42	Miami AIFSS	Okay
09:28:43	Miami AIFSS	All right then you're all set
09:28:45	BTTR	We're all set
09:28:46	Miami AIFSS	Err, all set
09:28:47	BTTR	All righty, you got, uh, life raft and, uh, yellow life jackets everybody, right?
09:28:50	Miami AIFSS	Yeah
09:28:51	BTTR	Okay, all righty, thanks for your help
09:28:53	Miami AIFSS	Okay
09:28:54	BTTR	Take care
09:28:55	Miami AIFSS	Bye
09:28:56	BTTR	Bye bye

2. HAVANA ACC QUERY ON TRAFFIC NORTH OF HAVANA TO MIAMI ARTCC

This portion of the transcript concerns communications between Havana ACC and Miami ARTCC. Miami ARTCC positions recorded were the D40, ZBVHI (Bimini HI) sector radar associate position, the AMIS position and E-1 position, from 10:40 to 10:49 hours.

TIME	STATION	TRANSMISSION	STATION	TRANSMISSION
	recorded in Havana		recorded in Miami	
10:40:42	Miami	Hello David	Miami D40	Hello David
10:40:44	Havana ACC	Ah, yes .. I want to, ah, may I speak with the Miami mission co-ordinator, please	Havana ACC	Ah, yes .. I want to, ah, may I speak with the Miami mission co-ordinator, please
10:40:49	Miami	Mission co-ordinator, okay, standby, just a moment please	Miami D40	Mission co-ordinator, okay, standby, just a moment please
	Miami AMIS	Miami mission co-ordinator, may I help you?		
	Havana ACC	Yes sir, good morning miss, I have a request, ah, we would like to know, I mean the Cuban authority wants to know if, ah, if you have any aircraft on these, on those coordinates two three four zero north, eight two two zero west, two three three zero north, eight one twenty five west, there is an aircraft there is, err, in circle, circle there and about three hundred, ah, kilometres, they want to know if there is one of your aircraft or if you have any information on that		
	Miami AMIS	Was that aircraft squawking a code?		
	Havana ACC	No, ah, hold on please ... no, no ah transponder		
	Miami AMIS	No transponder and its one, ah ... one aircraft?		
	Havana ACC	Its one aircraft		
	Miami AMIS	You don't know an altitude at all?		
	Havana ACC	Hold on ... no, the speed is more or less, er, three hundred kilometres		
	Miami AMIS	Ah, okay, ah, I call you back		
	Havana ACC	Okay thank you my initial India Sierra in Havana		
	Miami AMIS	India Sierra?		
	Havana ACC	Affirmative		
	Miami AMIS	Right, Juliet Hotel		

TIME	STATION	TRANSMISSION	STATION	TRANSMISSION
	recorded in Havana		recorded in Miami	
	Havana ACC	Okay thank you		
10:48:15			Havana ACC	Hello Havana
10:48:19			Miami E-1	India Sierra please
10:48:20			Havana ACC	Say again
10:48:21			Miami E-1	I'd like to speak to India Sierra
10:48:27			Havana ACC	Ah, India Sierra, roger, standby
			Miami E-1	India Sierra on the line
				... please
				(ringing signal)
10:48:44	Havana ACC	Yes	Havana ACC	Yes
10:48:45	Miami E-1	India Sierra please	Miami E-1	India Sierra please
10:48:47	Havana ACC	Yes, I am sir	Havana ACC	Yes, I am sir
10:48:48	Miami E-1	Hi, I'm the watch supervisor in Miami Center	Miami E-1	Hi, this is the watch supervisor at Miami Center
10:48:50	Havana ACC	Yes sir	Havana ACC	Yes sir
10:48:51	Miami E-1	You called a few minutes ago requesting information on ,er, an aircraft, er, with no altitude data and no transponder?	Miami E-1	You called a few minutes ago requesting information on, er, an aircraft, er, with no altitude data and no transponder?
10:48:58	Havana ACC	That's right sir	Havana ACC	That's right sir
10:48:59	Miami E-1	We checked with the Coast Guard and we checked with everyone that we know and no one knows of any aircraft that they own down there	Miami E-1	We checked with the Coast Guard and we checked with everyone that we know and no one knows of any aircraft that they own down there
	Havana ACC	Okay sir, thank you okay	Havana ACC	Okay sir, thank you okay
	Miami E-1	Okay?	Miami E-1	Okay?
	Havana ACC	Okay	Havana ACC	Okay

3. AMENDMENT OF FLIGHT PLANS

This portion of the transcript concerns communications recorded at Miami AIFSS, preflight 09 position, from 11:42 to 11:55 hours.

TIME	STATION	TRANSMISSION
11:47:36	Miami AIFSS	Miami flight service
11:47:37	BTTR	Hi, I'd like to amend three flight plans please
11:47:40	Miami AIFSS	Okay
11:47:41	BTTR	Ah, first aircraft is November two five zero six
11:47:47	Miami AIFSS	Out of Opa Locka to Opa Locka?
11:47:51	BTTR	Yea, ah, like to amend two things the departure time that will be seventeen thirty departure and the number of folks on board will Change to four. I guess, ah, you can also change the number of liferafts, that will change to four as well.
11:48:14	Miami AIFSS	Okay .. anything else?
11:48:16	BTTR	Yes ... November two four five six sierra ..ah..
11:48:22	Miami AIFSS	Just a minute let me look at something just one moment
11:48:41	Miami AIFSS	I'm sorry I think when we, uh, change these we get more flight plans sometimes I just want to be sure I am not missing some Here .. okay so the next one is?
11:48:54	BTTR	Uh uh you got November two four five six sierra?
11:48:57	Miami AIFSS	Two four five six sierra, fine
11:49:00	BTTR	Okay departure time seventeen thirty zulu
11:49:11	Miami AIFSS	Okay
11:49:13	BTTR	And ... the last aircraft
11:49:15	Miami AIFSS	How many people?
11:49:16	BTTR	Oh, same number of people
11:49:17	Miami AIFSS	Everything same on that?
11:49:18	BTTR	Yeah
11:49:21	Miami AIFSS	And then?
11:49:22	BTTR	And the last aircraft, November five four eight five sierra .. ah, departure time also for seventeen thirty zulu and you can add in the remarks, I am going to be taking three orange smokes in addition to what I already had.
11:49:40	Miami AIFSS	Three orange smokes
11:49:42	BTTR	Uh
11:49:48	Miami AIFSS	Okay
11:49:50	BTTR	Okay sir, that's three aircraft all seventeen thirty departure
11:49:53	Miami AIFSS	Okay
11:49:54	BTTR	That's that's what you got, right?

TIME	STATION	TRANSMISSION
11:49:55	Miami AIFSS	That's right yes
11:49:57	BTTR	Okay thanks for your help
11:49:58	Miami AIFSS	Good afternoon
11:49:59	BTTR	Good afternoon

4. TAXI FOR TAKE-OFF AT OPA LOCKA AIRPORT

This portion of the transcript concerns communications recorded at Opa Locka TWR, ground control north position, from 12:56 to 13:09 hours.

TIME	STATION	TRANSMISSION
13:01:34	N5485S	Opa Locka Ground, Skymaster five four eight five sierra Brothers hanger taxi for eastbound
13:01:40	Opa Locka TWR	Sky.. five four eight five sierra Opa Locka ground taxi to, uh, runway nine left via November
13:01:47	N5485S	Nine left via November eight five sierra
13:01:51	N2456S	Opa Locka Skymaster two four five six sierra
13:01:56	Opa Locka TWR	Sky.. two four five six sierra Opa Locka
13:01:59	N2456S	Good afternoon. Two four five six sierra is at the Brothers ramp taxi to take-off with information Yankee I'll be a west departure
13:02:03	Opa Locka TWR	Sky.. two four five six sierra roger taxi to runway, ah, nine left via November
13:02:04	N2456S	Five six sierra taxi to niner left via November
13:03:09	N5485S	And ground eight five sierra. That'll be a westbound departure
13:03:12	Opa Locka TWR	Eight five sierra roger
13:03.35	N2506	Opa Locka ground Skymaster two five zero six Brothers hanger to the active, uh, with information Yankee
13:03:40	Opa Locka TWR	Two five zero six Opa Locka ground .. roger taxi runway nine left via November
13:03:47	N2506	Nine left via November two five zero six, thank you ma'am
13:04:14	Opa Locka TWR	Skymaster two five zero six follow the, ah, Cessna ahead and to your right on November
13:04:27	N2506	Ah, two five zero six will follow the Cessna to our right, thank you
13:07:29	Miami AIFSS landline	(unreadable)
13:07:39	Opa Locka TWR landline	Opa Locka
13:07:40	Miami AIFSS landline	Yeah, Opa Locka
13:07:41	Opa Locka TWR landline	You gave us a call earlier reference the Brothers movements

TIME	STATION	TRANSMISSION
13:07:42	Miami AIFSS landline	Yeah, if the Brothers are active, uh uh
13:07:44	Opa Locka TWR landline	Yeah, there's three of them taxied out for departure
13:07:50	Miami AIFSS landline	Okay is that two five zero six, two four five six Sierra and five four eight five Sierra?
13:07:52	Opa Locka TWR landline	Affirmative
13:07:54	Miami AIFSS landline	Okay thanks, appreciate it, RZ bye

5. DEPARTURE FROM OPA LOCKA AIRPORT

This portion of the transcript concerns communications recorded at Opa Locka TWR, local control north position, from 13:05 to 13:18 hours.

TIME	STATION	TRANSMISSION
13:10:45	N2506	Opa Locka tower Skymaster November two five zero six, ah, ready for departure runway nine .. left
13:11:02	Opa Locka TWR	Skymaster five zero six runway nine left taxi into position and hold. Say direction of flight
13:11:07	N2506	We're going west, westbound, Sir
13:11:08	Opa Locka TWR	Roger
13:11:14	Unknown	(unintelligible) .. nine left west departure
13:11:15	Opa Locka TWR	Two aircraft talking at the same time for departure
13:11:25	Opa Locka TWR	Who's the next up holding short niner left?
13:11:34	N2456S	Opa Locka tower five six sierra
13:11:36	Opa Locka TWR	Five six sierra Opa Locka
13:11:38	Opa Locka TWR	November two four five six sierra is ready for take-off nine left west departure
13:11:42	Opa Locka TWR	Five six sierra hold short, who's after the five six sierra?
13:11:50	N5485S	Five four eight five sierra
13:11:51	Opa Locka TWR	Five four eight five sierra roger hold short
13:11:52	N5485S	Five four eight five sierra holding short number three
13:11:53	Opa Locka TWR	Five zero six left turn approved runway niner left cleared for take-off
13:11:55	N2506	Five zero six
13:12:19	Opa Locka TWR	Five six sierra taxi into position and hold nine left
13:12:22	N2456S	Five six sierra taxi into position and hold
13:12:35	Opa Locka TWR	November five six sierra left turn approved runway niner left cleared for take-off

TIME	STATION	TRANSMISSION
13:12:40	N2456S	Five six sierra cleared for take-off left turn approved
13:12:44	Opa Locka TWR	November eight five sierra runway niner left taxi into position and hold
13:12:48	N5485S	Eight five sierra position and hold
13:12:50	Opa Locka TWR	Skymaster five zero six keep the Cessna ahead and to your left in sight, left turn approved
13:12:55	N2506	Five zero six beginning left turn now
13:13:00	Opa Locka TWR	Five zero six understand you have the Cessna in sight, correct?
13:13:04	N2506	Correct, sir
13:13:14	Opa Locka TWR	Eight five sierra left turn approved cleared take-off runway niner left
13:13:17	N5485S	Eight five sierra cleared for take-off niner left
13:14:35	Opa Locka TWR	Opa Locka
13:14:38	Miami ARTCC landline	Opa Locka this is Miami Center. Do you know if any of the Brothers to the Rescue are airborne as yet?
13:14:48	Opa Locka TWR landline	They all just departed. Right now they're north of the field
13:14:51	Miami ARTCC landline	They're just starting to get off at this time?
13:14:55	Opa Locka TWR landline	They're north of the field right now I've got five zero six, five six sierra and eight five sierra, all departed and they're westbound just north of the field
13:15:00	Miami ARTCC landline	Okay, thank you and let me know if any more get off, okay
13:15:05	Opa Locka TWR landline	Will do
13:15:05	Miami ARTCC landline	Thank you
13:15:35	Opa Locka TWR	Skymaster five zero six, five six sierra and eight five sierra, all frequency change approved westbound
13:15:36	N2506	Five zero six roger sir. Have a nice day
13:15:38	Opa Locka TWR	You too
13:15:37	N2456S	Five six sierra roger
13:15:38	N5485S	Eight five sierra roger
13:15:40	Opa Locka TWR	Safe flight
13:15:41	N2506	Thank you sir, we need it

6. ACTIVATION OF FLIGHT PLANS

This portion of the transcript concerns communications recorded at Miami AIFSS, inflight 02 position, callsign Miami Radio, from 13:11 to 13:40 hours.

TIME	STATION	TRANSMISSION
13:16:45	N5485S	Miami Radio Skymaster five four eight five Sierra, one two two point two
13:16:52	Miami Radio	Skymaster five four eight five sierra Miami Radio
13:16:55	N5485S	Skymaster five four eight five .. eight five sierra like to activate our flight plan please
13:17:04	Miami Radio	And Skymaster, uh, eight five sierra give me a couple seconds sir you're a little late on activating and it timed out .. let me put it back in the system for you standby .. verify you are squawking one two two four
13:17:13	N5485S	Affirm one two two four for eight five sierra
13:18:02	N2456S	Miami Radio, Miami Radio, Skymaster two four five six sierra listening
13:18:09	Miami Radio	Skymaster two four five six sierra stand by a sec
13:18:54	Miami Radio	And, uh, Skymaster five four eight five sierra, uh, we'll activate that flight plan for you sir. We're getting it. We're having a problem getting it to address
13:19:55	Miami Radio	November two four five six sierra Miami Radio we'll activate your flight plan as of this time and verify you are squawking one two two three
13:20:02	N2456S	Five six sierra one two two three thank you
13:20:04	Miami Radio	Okay, have a good flight sir
13:23:08	N2506	Miami Radio Skymaster two five zero six
13:24:25	Miami Radio	November two five zero six go ahead
13:24:27	N2506	I understand uh, we're opening our VFR flight plan search and rescue. Uh, November two five zero six squawking one two two two
13:26:57	N2506	Two five zero six please confirm activation
13:27:00	Miami Radio	Aircraft wanting confirmation, uh, say again
13:27:03	N2506	November two five zero six request confirmation flight plan activation
13:27:07	Miami Radio	Yes it is, flight plan is activated, have a good day
13:27:10	N2506	Thank you ma'am

7. N5485S, N2456S AND N2506 IN CONTACT WITH HAVANA ACC

This portion of the transcript concerns communications recorded at Havana ACC from 14:56 to 14:59 hours. The original language of the recording was Spanish.

TIME	STATION	TRANSMISSION
14:56:00	N5485S	CENTRO HABANA NOVIEMBRE CINCO CUATRO OCHO CINCO SIERRA *(Havana centre November five four eight five sierra)*
14:56:05	Havana ACC	CINCO CUATRO OCHO CINCO SIERRA LA HABANA *(Five four eight five Sierra Havana)*
14:56:08	N5485S	NOVIEMBRE CINCO CUATRO OCHO CINCO SIERRA BUENOS DÍAS, CRUZANDO PARALELO VIENTE Y CUATRO EN ESTOS MOMENTOS, APROXIMADAMENTE VAMOS A MANTENER EN ESTA AÉREA CINCO HORAS. *(November five four eight five Sierra good morning we are crossing parallel twenty four at this moment and will remain in this aérea for approximately five hours)*
14:56:21	Havana ACC	RECIBIDO VERIFIQUE EL CÓDIGO RESPONDEDOR. *(Roger check transponder code)*
14:56:24	N5485S	EL OCHO CINCO SIERRA CON UNOS DOS DOS CUATRO *(Eight five sierra with one two two four)*
14:56:36	Havana ACC	EN QUE ZONA VA A REALIZAR EL TRABAJO? *(In what aérea are you going to do your work?)*
14:56:39	N5485S	BUENO, ESA INFORMACIÓN ESTA EN NUESTRO PLAN DE VUELO. *(Well that information is in our flight plan)*
14:56:42	Havana ACC	RECIBIDO SEÑOR. *(Roger sir)*
14:57:00	N2456S	CENTRO HABANA NOVIEMBRE DOS CUATRO CINCO SEIS SIERRA *(Havana centre November two four five six sierra)*
14:57:02	Havana ACC	DOS CUATRO CINCO SEIS SIERRA CENTRO HABANA *(Two four five six sierra Havana centre)*
14:57:06	N2456S	DOS CUATRO CINCO SEIS SIERRA RESPONDIENDO UNOS DOS DOS TRES CRUZANDO VEINTE Y CUATRO PARALELO EN CINCO MINUTOS *(Two four five six sierra transponder one two two three when crossing parallel twenty four in five minutes)*
14:57:10	Havana ACC	RECIBIDO *(Roger)*
14:57:17	N2506	BUENAS TARDES CENTRO HABANA, EL NOVIEMBRE DOS CINCO CERO SEIS LE SALUDA, POR FAVOR ESTAMOS CRUZANDO EL PARALELO VEINTE Y CUATRO EN CINCO MINUTOS Y MANTENDREMOS UNAS TRES A CUATRO HORAS DENTRO DE SU AÉREA, ESTAMOS RESPONDIENDO UNOS DOS DOS DOS, CINCOCIENTOS PIES O MAS. *(Good afternoon Havana centre. Greetings from November two five zero six. Please we should be crossing parallel twenty four in five minutes and staying in your aérea for about three to four hours we are answering to one two two two at five hundred feet or more)*
14:57:32	Havana ACC	CENTRO HABANA RECIBIDO. *(Havana centre here we copy)*
14:57:34	N2506	MUCHAS GRACIAS *(Thank you very much)*

TIME	STATION	TRANSMISSION
14:57:45	N2506	AGRADECIDO...PARA SU INFORMACIÓN, CENTRO HABANA, EL AÉREA DE OPERACIONES NUESTRA AL NORTE DE LA HABANA EN EL DÍA DE HOY, ASÍ QUE ESTAREMOS EN SU AÉREA Y EN CONTACTO CON USTED, TIENE UN SALUDO CORDIAL DE HERMANOS AL RESCATE Y DE SU PRESIDENTE JOSÉ BASULTO QUE LE HABLA. *(Thanks ... for your information Havana centre today our aérea of operation is north of Havana, so we will be in your aérea and in contact with you. Brothers to the Rescue and myself, president of the organization José Basulto, send you warm greetings)*
14:57:57	Havana ACC	OK. RECIBIDO SEÑOR, LES INFORMO LA ZONA AL NORTE DE LA HABANA ESTA ACTIVADA, CORRE USTED PELIGRO AL PENETRAR POR DEBAJO DE VEINTE Y CUATRO NORTE. *(Roger sir we inform you that the aérea north of Havana is activated you are taking a risk by flying south of twenty four)*
14:58:08	N2506	ESTAMOS CONSCIENTES QUE ESTAMOS EN PELIGRO CADA VEZ QUE CRUZAMOS EL AÉREA AL SUR DEL VEINTE Y CUATRO PERO ESTAMOS DISPUESTOS A HACERLO EN NUESTRA CONDICIÓN DE CUBANOS LIBRES. *(We know that we are in danger each time we fly into the aérea south of twenty four but we are ready to do so as free Cubans)*
14:58:20	Havana ACC	ERRE...GRACIAS, ENTONCES COPIADA SU INFORMACIÓN SEÑOR. *(Thank you we've copied you sir)*
14:58:27	N2506	MUCHAS GRACIAS *(Thank you very much)*

8. N2506 IN CONTACT WITH HAVANA ACC AT 15:20 HOURS

There was a further communication between N2506 and Havana ACC at 15:20 hours. The original language of the recording was Spanish.

TIME	STATION	TRANSMISSION
15:20:27	N2506	CENTRO HABANA NOVIEMBRE DOS CINCO CERO SEIS *(Havana centre November two five zero six)*
15:20:29	Havana ACC	NOVIEMBRE DOS CINCO CERO SEIS HABANA *(November two five zero six Havana)*
15:20:31	N2506	UN SALUDO CORDIAL, LE REPORTAMOS A DOCE MILLAS AL NORTE DE LA HABANA PROCEDIENDO EN NUESTRO RUMBO DE BÚSQUEDA Y RESCATE HACIA EL ESTE, EN ESTOS MOMENTOS UN DÍA MUY BONITO Y LA HABANA LUCE MUY BIEN DESDE DONDE ESTAMOS, UN SALUDO CORDIAL PARA USTED Y PARA TODO EL PUEBLO DE CUBA DEPARTE DE HERMANOS AL RESCATE. *(Warm greetings. We report to you from twelve miles from Havana and proceed on our search and rescue course to the east. It's a beautiful day today and Havana looks just fine from up here. Cordial greetings to you and to all the people of Cuba from Brothers to the Rescue)*
15:20:50	Havana ACC	HABANA RECIBIDO *(Havana roger)*

9. N2506 IN CONTACT WITH MIAMI AIFSS AT 15:46 HOURS

This portion of the transcript concerns communications recorded at Miami AIFSS, inflight 02 position, callsign Miami Radio, from 15:41 to 16:07 hours.

TIME	STATION	TRANSMISSION
15:46:25	N2506	Miami Radio Skymaster november two five zero six
15:46:29	Miami Radio	Skymaster two five zero six, Miami Radio
15:46:33	N2506	Uh, two five zero six, uh, returning to base from a search and rescue mission with three aircraft who are .. and we have two aircraft missing at this time, they are not responding to our calls, uh, this happened, uh, in front of Havana, uh, some, uh, we were some, uh, twenty to twenty-five miles north of Havana and we lost contact with two of Brothers to the Rescue aircraft there. I'm going to give you the numbers, one of them is, uh, five four eight five sierra and the other one, uh, standby ... two four five six sierra, two four five six sierra, we have, uh, lost them
15:47:18	Miami Radio	Two zero...two five zero six Miami Radio understand on the way back in and which other birds are coming with you?
15:47:26	N2506	There are three birds and, uh, we were, uh, flying our search and rescue mission. We were flying parallel lines, uh, in front of Havana and, uh, we saw MiGs in the area... We saw two MiGs in the area and some flares coming down, uh, we do not know if they have anything to do, uh, with, uh, their not responding, eh, these aircraft numbers are five four eight five sierra and, uh, two four five six sierra
15:47:59	Miami Radio	Roger, Sir, what I'm trying to confirm with you right now if you don't mind is, uh, I understand you are coming back alone. Is that correct? or, or its not, uh, am I assuming you correctly, you are coming back alone?
15:48:10	N2506	One aircraft coming back alone with, uh, four souls on board the other two aircraft are not responding .. radio calls .. there were MiGs in the area
15:48:20	Miami Radio	Two five, uh, zero six roger sir, what is your estimated time of arrival Opa Locka?
15:48:25	N2506	All right I'll give it to you in a moment, uh, I believe we should be at Opa Locka, standby I'll give you a call
15:49:02	N2506	Uh, Miami Radio two five zero six estimating Opa Locka in, uh, twenty-five minutes
15:49:10	Miami Radio	Roger understand estimate Opa Locka at, uh, twenty-five minutes and confirm one other time, sir, that you have lost contact with them altogether?
15:49:19	N2506	That is affirmative, sir, we have lost radio contact with both aircraft. We saw smoke in the area. We saw a large ball of smoke in the water, uh, some three miles away from us. We cannot tell whether it was a flare or it might have been one of our aircraft. So we are very concerned. We are trying to reach him and if we could possibly, uh, get, uh, some if you have any, uh uh, radar picture from there, uh, we were squawking the uh assigned code
15:49:48	Miami Radio	And two four, uh, correction two five zero six roger I'll try to make an inquiry at the Center and see if they might of had some information. Try to help you out. Uh, we'll see what we can do for you. At this time, sir, I have the information down pat and I have your ETA into Opa Locka
15:50:01	N2506	Thank you sir
15:50:03	Miami Radio	You're welcome

TIME	STATION	TRANSMISSION
15:52:09	Miami Radio	November two five zero six Miami Radio
15:52:16	Miami Radio	November two five zero six, November two five zero six, this is Miami Radio calling
15:52:21	N2506	Miami Radio, November five zero six
15:52:26	Miami Radio	Roger sir, I need to know the location and about what time, how long ago did you see those MiGs?
15:52:33	N2506	About three zero minutes ago, sir, and uh
15:52:38		.. (unintelligible) uh long it ..
15:52:46		.. at eighty two thirty approximately ..
		(other aircraft transmits, instructed to standby)
15:53:00	Miami Radio	November two five zero six the first uhm .. latitude I did not catch sir. Would you please repeat the latitude longitude again?
15:53:08	N2506	Two three three zero, two three three zero and approximately eight two three zero
15:53:25	Miami Radio	And, uh, roger sir, November two five zero six, uh, appreciate that I have the information at this time and, I've just been informed that, uh, you need to call somebody when you get on the ground. I'm going to give you the number here in a minute
15:53:38	N2506	Uh roger sir
15:53:45	Miami Radio	And, uh, November two five zero six maintain radio contact with Miami Radio when I get the telephone number we'll let you know with, uh, which one it is okay
15:53:54	N2506	Stay on your frequency sir
15:56:40	Miami Radio	November two five oh six Miami Radio
15:56:48	Miami Radio	November two five oh six Miami Radio
15:56:55	Miami Radio	November two five zero six Miami Radio
16:00:28	Miami Radio	November two five zero six Miami Radio
16:00:31	N2506	Roger two five zero six go ahead Miami Radio
16:00:33	Miami Radio	Yeah, I have that phone number for you to call when you get on the ground. Its, uh, area code two zero two .. two six seven .. three three, three three
Note	*N2506 was asked to call 202 267 3333 (FAA Operations Center in Washington, D.C.)*	
16:00:48	N2506	Two zero two two ... (unintelligible)
16:00:56	Miami Radio	Okay, I did.. I didn't get your read back but it was two six seven three three, three three
16:01:04	N2506	Two six seven three three, three three
16:01:07	Miami Radio	That's affirmative
16:01:10	N2506	We call, uh ... (unintelligible)
		(blocked by other aircraft transmissions)
16:01:23	N2506	Miami radio two five zero six can we call via cellular?

TIME	STATION	TRANSMISSION
16:01:27	Miami radio	Uh, you probably could, uh, standby
16:01:37	Miami Radio	Uh, November two five zero six can you land at Key West and give us a call?
16:01:47	N2506	Uh, I can ... (unintelligible) Key West
16:01:51	Miami Radio	Uh, say again
16:01:55	N2506	Uh, yes I can land at Key West
16:01:57	Miami Radio	Okay when you land at Key West, uh, give us a call, uh, do you have the phone number?
16:02:05	N2506	Two zero two, two six seven, three three three three
16:02:10	Miami Radio	Uh, give Miami Flight Service a call when you land at Key West
16:02:16	N2506	Say the number please
		(other aircraft transmits, instructed to standby)
16:02:28	Miami Radio	Uh, twenty-five oh six, it's two three three, two six one zero
16:02:34	N2506	Two three three?
16:02:38	Miami Radio	Two three three, two six one zero
16:02:44	N2506	Okay, we will land at Key West
16:02:45	Miami Radio	Okay roger

10. N2506 IN CONTACT WITH MIAMI AIFSS AT 16:11 HOURS

This portion of the transcript concerns communications recorded at Miami AIFSS, inflight 02 position, from 16:07 to 16:21 hours.

TIME	STATION	TRANSMISSION
16:11:49	N2506	Miami Radio Skymaster November two five zero six
16:11:53	Miami radio	November two five zero six Miami Radio
16:11:56	N2506	Yes ma'am we have Key West in sight but we'd like to know what the reason why she should have asked .. should we land in Key West?
16:12:02	Miami Radio	Uh, I guess the supervisor here would like to talk to you, uh, ..that's the only reason I know
16:12:10	N2506	We'll be there at the ramp because I think it's more important to get to Opa Locka
16:12:15	Miami Radio	Okay, we you do whatever you, you can give us a call when you get to Opa Locka
16:12:21	N2506	Think so, I think that's the best idea and, uh, we'll proceed to Opa Locka and, uh, again we would like to declare an emergency because we have not heard from our aircraft any more
16:13:23	N2506	Miami Radio Skymaster two five zero six
16:13:44	N2506	Miami Radio November two five zero six
16:13:49	Miami Radio	Two five zero six standby one

11. N2506 IN CONTACT WITH MIAMI AIFSS AT 16:14 HOURS

This portion of the transcript concerns communications recorded at Miami AIFSS, inflight 03 position, callsign Miami Radio, from 16:09 to 16:21 hours.

TIME	STATION	TRANSMISSION
16:14:08	Miami Radio	Cessna two five zero six Miami Radio go ahead
16:14:10	N2506	Sir, two five zero six would like to declare an emergency on those two aircraft we have not received further contact from them and it is practically impossible that they would lose four radios so we saw two MiGs in the area and we saw two balls of smoke, two balls of smoke and I am trying to tell you that the likelihood is that those two aircraft might have been downed by the MiGs
16:14:37	Miami Radio	Cessna two five zero six, er, understand sir, what I need to know is which airport you are going to
16:14:44	N2506	I am going into Opa Locka to our base into Opa Locka
16:14:50	Miami Radio	November two five zero six understand you're going go to Opa Locka. Now do you need any help with the bearings?
16:14:56	N2506	No sir, I am, uh, proceeding on my own, uh, navigation to Opa Locka. I have no emergency aboard my aircraft, the emergency is with the two other aircraft
16:15:07	Miami Radio	Cessna two five zero six I understand, sir, uh, the emergency is with the two other aircraft. The authorities have been advised of the situation and, uh, what we needed to make sure is just exactly where you are going at this time
16:15:19	N2506	Proceeding to Opa Locka, I am proceeding to Opa Locka
16:15:24	Miami Radio	and, uh, Cessna two five zero six, uh .. uh, if you don't need any other assistance, sir, you may contact Miami Ra.. Center at this time and, uh uh, if you can, uh, maybe touch base with us, uh, every now and then just so that we know what's going on with you
16:15:42	N2506	Roger sir .. roger

12. N2506 IN CONTACT WITH U.S. NAVAL AIR STATION KEY WEST

During the period 16:18 to 16:25 hours, N2506 was in contact with the Naval Air Station approach facility at Key West. A record of these communications were not available from Key West, however, a recording of the transmissions, but not of reception, was made onboard N2506.

TIME	STATION	TRANSMISSION
16:18:??	N2506	Key West approach Skymaster two five zero six
	N2506	Key West advisories November two five zero six
	NAS Key West	...
	N2506	Er, negative sir we are squawking one two two two, ah, for code identification, ah, for code identification customs and, err, we are inbound Opa Locka we are some thirty miles west of Key West at this time and we are in the process of reporting a possible emergency with two aircraft

TIME	STATION	TRANSMISSION
	NAS Key West	---
	N2506	The emergency is two overdue aircraft, ah, that we think we have lost but, I'm sorry, that we have lost some thirty miles north of Havana. That is Brothers to the Rescue two aircraft and smoke that was seen in the vicinity of the area where we were tracking, north of us we also saw two MIGs in the area
	NAS Key West	---
	N2506	Cessna three three seven
	NAS Key West	---
	N2506	Yes sir this is November five eight four five sierra and November two four five six sierra
	NAS Key West	---
	N2506	The second is correct the first one is five four eight five sierra
16:25:??		

13. N2506 CLOSURE OF FLIGHT PLAN

This portion of the transcript concerns communications recorded at Miami AIFSS, inflight 02 position, callsign Miami Radio, from 16:48 to 16:59 hours.

TIME	STATION	TRANSMISSION
16:53:37	N2506	Miami Radio Skymaster two five zero six
16:53:40	Miami Radio	November two five zero six Miami Radio
16:53:43	N2506	Two five zero six, uh, cancelling our flight plan we're inbound Opa Locka. Do you have any news for us by any chance?
16:53:49	Miami Radio	I'll cancel you out and, uh, no we haven't heard anything
16:53:53	N2506	Thank you ma'am

14. N2506 LANDING AT OPA LOCKA AIRPORT

This portion of the transcript concerns communication recorded at Opa Locka TWR, local control north position from 16:55 to 17:14 hours.

TIME	STATION	TRANSMISSION
17:00:44	N2506	Opa Locka tower Skymaster two five zero six thirteen west landing Opa Locka
17:00:55	Opa Locka TWR	Skymaster two five zero six Opa Locka tower straight in runway nine left report the turnpike check your transponder on
17:01:05	N2506	Two five zero six transponder is on, sir

TIME	STATION	TRANSMISSION
17:01:08	Opa Locka TWR	Roger reset and squawk one two zero zero I'm not picking up any altitudes out to that way
17:01:11	N2506	It's ah squawking one two zero zero and, ah, well, you're not picking up the altitude?
17:01:16	Opa Locka TWR	No, all I have is primary targets out fourteen miles west of the field
17:03:40	Opa Locka TWR	Skymaster five zero six ident
17:03:48	N2506	Five zero six
17:03:54	Opa Locka TWR	Skymaster five zero six say direction of flight
17:03:58	N2506	We're going to, ah, we are southwest of the field sir
17:03:59	Opa Locka TWR	Skymaster five zero six fly northbound west of the turnpike join a six mile base to final for runway niner left report crossing the Florida turnpike
17:04:08	N2506	All right er, we'll report crossing the turnpike for final on runway nine left
17:05:31	N2506	Two five zero six is crossing the turnpike
17:05:33	Opa Locka TWR	Skymaster two five zero six runway niner left clear to land
17:05:37	N2506	Two five zero six
17:05:39	Customs landline	(ringing sound) I copied it over here
17:05:41	Opa Locka TWR landline	Okay
17:05:42	Customs landline	Thanks
17:08:54	Opa Locka TWR	Skymaster five zero six turning right at taxiway charlie correction turn right at the end contact ground point niner clearing
17:09:10	N2506	Turn out at the end? I can turn Charlie if you want
17:09:12	Opa Locka TWR	Five zero six make the right turn at Charlie contact ground point niner

15. N2506 TAXI IN AFTER LANDING

This portion of the recording concerns communications recorded at Opa Locka TWR, ground control position from 17:04 to 17:14 hours.

TIME	STATION	TRANSMISSION
17:09:24	N2506	Opa Locka ground Skymaster two five zero six, ah, ready to taxi, ah, from nine left to, ah, to the, ah, hanger, Brothers hanger
17:09:34	Opa Locka TWR	Skymaster two five zero six Opa Locka ground, taxi straight ahead and, er, taxi to Customs
17:09:40	N2506	Ah negative Customs we do not, ah, do, um ah, any foreign stoppage
17:09:50	Customs	Two five zero six this is Customs. You are to report to Customs trailer period
17:09:56	N2506	Oh good, okay, thank you sir

B. TRANSCRIPT OF RADIO COMMUNICATIONS AS RECORDED ON BOARD N2506

The tape provided by the Brothers to the Rescue was recorded by the pilot of N2506 on 24 February 1996. The recorder used a microphone in the pilot's headset and thus recorded any radio and intercom communications as selected by the pilot at the time. Apart from the intercom in N2506, the communications were between: the three aircraft and including the Brothers to the Rescue Opa Locka hangar, VHF and possibly HF; Havana Centre; USN Key West; and Miami Radio. Various other aircraft appear in the text, these are conducting their routine communications with Havana ACC. The recording was partially in English and partially in Spanish. When the original language was Spanish, a translation into English has been provided and indicated by the use of italics. The United States provided a record of communications between the Brothers to the Rescue aircraft from 15:03 to 15:31 hours

The three Brothers to the Rescue aircraft are identified as:

N2506	Seagull One	Code 1222	
N2456S	Seagull Charlie	Code 1223	(first aircraft shot down)
N5485S	Seagull Mike	Code 1224	(second aircraft shot down)

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
14:55:54	N2506 Seagull 1		.. I say do it	
	N5485S Seagull M		Roger	
14:56:00	N5485S Seagull M			*Havana centre November five four eight five sierra*
14:56:05	Havana ACC			*Five four eight five Sierra Havana*
14:56:08	N5485S Seagull M			*November five four eight five sierra good morning we are crossing parallel twenty four.. at this moment and will remain in this area for approximately five hours*
14:56:21	Havana ACC			*Received, check transponder code*
14:56:24	N5485S Seagull M			*Eight five sierra with one two two four*
14:56:36	Havana ACC			*In what area are you going to do your work?*
14:56:39	N5485S Seagull M			*Well that information is in our flight plan*
14:56:42	Havana ACC			*I received that*

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
	Havana ACC			Martinair six four Havana, radar contact one five miles south of ATUVI maintain three five zero
	Martinair 64			Roger maintain three five zero radar contact, Martinair six four
	N2456S Seagull C			er November ...
14:57:00	N2456S Seagull C			*Havana centre November two four five six sierra*
14:57:02	Havana ACC			*Two four five six sierra Havana centre*
14:57:06	N2456S Seagull C			*Two four five six sierra transponder one two two three when crossing parallel twenty four in five minutes*
14:57:10	Havana ACC			*Roger*
14:57:17	N2506 Seagull 1			*Good afternoon Havana centre. Greetings from November two five zero six. Please, we should be crossing parallel twenty four in five minutes and staying in your area for about three to four hours transponder one two two two, at five hundred feet or more*
14:57:32	Havana ACC			*Havana centre here we copy*
14:57:34	N2506 Seagull 1			*Thank you very much*
14:57:45	N2506 Seagull 1			*Thanks ... for your information Havana centre today our area of operation is to the north of Havana, so we will be in your area and in contact with you. Brothers to the Rescue and myself, president of the organization Jose Basulto, send you warm greetings*
14:57:57	Havana ACC			*Received sir, we inform you that the area north of Havana is activated you are taking a risk by flying south of twenty four*
14:58:08	N2506 Seagull 1			*We know that we are in danger each time we fly into the area south of twenty four but we are ready to do so as free Cubans*
14:58:20	Havana ACC			*Thank you we've copied you sir*

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
14:58:27	N2506 Seagull 1			*Thank you very much*
Recorder switched off for an unknown length of time				
	?			That is correct
	?	Negative, I am talking ... to go on, we are having both...		
15:16:52	Cayman 201			Havana centre this is Cayman two zero one
15:16:55	Havana ACC			Good evening Cayman two zero one radar contact sir maintain two nine oh. Are you proceeding direct to .. anywhere? Cayo Largo or Varder?
15:17:02	Cayman 201			We were going direct to ah TADPO but we would really appreciate a direct to Cayo Largo
15:17:07	Havana ACC			Well, due to warning area activated again in via TADPO sir, and your present heading will not take you direct to TADPO, er, from your present position heading to TADPO should be one four five, heading one forty five
15:17:21	Cayman 201			One forty five, Cayman two oh one
15:17:23	Havana ACC			Roger
15:17:27	N2456S Seagull C		One, Charlie	
	N2506 Seagull 1		Hi Charlie	
15:17:31	N2456S Seagull C		You got that boat in front of you?	
	N2506 Seagull 1		Ah, not yet about a mile more	
15:17:35	N2456S Seagull C		Its your eleven o'clock you've got a boat	
15:17:37	Cayman 201			Havana Cayman two zero one
15:17:39	N2506 Seagull 1		Yeah, I am overflying the boat	
15:17:41	N2456S Seagull C		Okay roger	

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:17:45	Havana ACC			Who is calling Havana now?
15:17:46	Cayman 201			Cayman two zero one. Is it your warning area that is active, or the US?
15:17:52	Havana ACC			Ah, it's mine sir it's in Havana airspace after twenty four north it's only ten miles to the west of the, er, Green four forty eight
15:18:01	Cayman 201			Okay sir we will go over to TADPO
	Havana ACC			Roger
15:18:09	N2506 Seagull 1		... checking the boat. Out	
15:18:14	N2456S Seagull C		... we got you	
	N5485S Seagull M		Mike is twenty three twenty eight, eighty two twenty nine do you want me to wait for you here?	
15:18:26	N2506 intercom	*Charlie wants to go to ...*		
15:18:28	N2506 Seagull 1		Why not	
	N5485S Seagull M		Roger	
15:18:35	N5485S Seagull M		If you are going to be there a while I'd like to advertise also	
15:18:39	N2506 intercom	*Barbarous!*		
15:18:47	N2506 intercom	*Would you like a close-up?*		
	N2506 intercom	*What are you doing?*		
15:18:50	N2506 intercom	*Go, go*		
15:18:52	N2506 intercom	*I am going, going to take east now. Right?*		

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:19:8	N5485S Seagull M		Mike is going to stay around eighty two thirty	
	N2506 intercom	*... take to the east... inform home ...Look*		
15:19:36	N2506 intercom	*... Yes take the east a little bit slanted, not like east but a bit more*		
15:20:5	Havana ACC			US Air one eight seventy six er call Miami one three two point two, good day
15:20:10	US Air 1876			Thirty two two, one six
15:20:27	N2506 Seagull 1			*Havana centre November two five zero six*
15:20:29	Havana ACC			*November two five zero six Havana*
15:20:31	N2506 Seagull 1			*Warm greetings. We report to you from twelve miles from Havana and proceed on our search and rescue course to the east. It's a beautiful day today and Havana looks just fine from up here. Cordial greetings to you and to all the people of Cuba from Brothers to the Rescue*
15:20:50	Havana ACC			*Havana received*
15:20:52	N2506 intercom	*before they did'nt even say that*		
15:20:53	Royal 561			Havana good afternoon Royal five six one heavy five point five for one zero zero
15:20:59	Havana ACC			Good afternoon Royal five fifty err sixty one, radar contact sir, one five miles out of Varadero, climb initially to flight level one zero zero
15:21:07	Royal 561			Climb maintain one zero zero, Royal five six one
15:21:10	Havana ACC			Martinair six four call Miami Center one three two point two
15:21:13	Martinair 64			Call Miami Center one three two point two have a nice day, thank you, bye bye
	N2506 intercom	*twenty nine... they throw a Mig at us....*		

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:21:19	N2506 Seagull 1		One Mike	
15:21:20	N2506 intercom	*barbarous*		
	N2506 intercom	*They are going to shoot*		
15:21:26	N2506 intercom	*wow, they are going to shoot us... how barbaric*		
	N2506 intercom	*ha*		
15:21:35	Havana ACC			Cayman two zero one Havana proceed from present position direct to ATUVI intersection
	N2506 intercom	*They will shoot us? Yes!*		
	N2506 intercom	*They will shoot at us! ..*		
	N2506 intercom	*they are using that for ...*		
15:21:37	N2506 intercom	*...there's a MiG comming ... MiG*		
	N2506 intercom	poor Mike		
15:21:42	Cayman 201			Present position direct to ATUVI, Cayman two oh one, thank you
15:21:43	Havana ACC			Bye
15:21:51	Havana ACC			Royal five sixty one Havana
	N2506 intercom	*You see...you see they shoot at us, this was a flare*		
15:21:53	Royal 561			Five sixty one go ahead
15:21:56	Havana ACC			Traffic is a Cessna 421 the same way located twelve o'clock level one two zero distance twenty miles
15:22:04	N2596 intercom	*Okay, we have a Mig around*		
15:22:05	Royal 561			Okay, we'll keep an eye for it, five sixty one. He's twenty miles out is he?

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:22:12	Havana ACC			About 20 miles ahead.. Sir.. He's level one two zero on your same way
15:22:18	Royal 561			Okay thanks
15:22:19	N2506 intercom	*We have a MiG around us*		
	N2506 intercom	.....		
15:22:23	N2506 intercom	*Celia*		
	N2506 intercom	*Look there, look at it*		
15:22:26	Havana ACC			Royal five sixty one whats your present heading sir?
15:22:28	N2506 Seagull 1		Seagull Charlie, Seagull One	
	Royal 561			Royal five sixty one is head zero one zero
15:22:32	N4585S Seagull M		Seagull One there's a MiG in the air, bogie in the air, where are you?	
	Havana ACC			.. on heading
15:22:43	N2506 Seagull 1		The bogies are north of us at this time, they dropped a er flare apparently to take reference from	
15:22:48	Royal 561			Vector two five zero, up to two four zero, Royal five sixty one
15:23:0	N5485S Seagull M		Seagull Charlie this is Seagull Mike?	
15:23:20	N4585S Seagull M		Charlie Mike?	
15:23:27	N5485S Seagull M		One have you heard from Charlie?	
15:23:29	N2506 Seagull 1		Negative	
15:23:36	N5485S Seagull M		What is your position?	
15:23:43	N5485S Seagull M		Seagull Mike is two three three zero, eight two two nine	

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:23:47	N2506 Seagull 1		Okay we're two three two five, eight two two zero	
15:23:55	N2506 Seagull 1		Seagull Charlie, Seagull Charlie	
15:24:22	Cubana 9406			*Havana centre Cubana nine four zero six good afternoon*
15:24:26	Havana ACC			*Nine four zero six good afternoon, radar contact climb to two seven zero*
15:24:30	N2506 Seagull 1		Seagull Charlie Seagull One	
	Cubana 9406			*.. level two seven zero*
15:24:33	N5485S Seagull M		Mike is with you	
15:24:35	Havana ACC			Royal five sixty one resume own navigation direct Marathon, clear of traffic
15:24:39	N2506 Seagull 1		Seagull Charlie are you with us?	
15:24:45	N2506 Seagull 1		Seagull Mike are you with us?	
15:24:47	N5485S Seagull M		Yes sir	
15:24:51	N2506 Seagull 1		Ah, stand by	
15:24:56	N2506 Seagull 1		Seagull Charlie Seagull One	
15:25:03	N2506 Seagull 1		Seagull Charlie Seagull One	
15:25:11	N2506 Seagull 1		Seagull Charlie Seagull One	
15:25:23	N2506 Seagull 1		Seagull Charlie Seagull One	
15:25:33	Opa Locka hangar		*... come in ... come in*	
15:25:37	N2506 Seagull 1		*Ah, trying to reach Seagull Charlie, no contact Seagull Charlie, do you .. do you copy?*	

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
15:25:48	Opa Locka hangar		*.. here, go ahead, go ahead understand*	
15:25:53	N2506 Seagull 1		*Go ahead Seagull Seagull Charlie*	
15:26:02	Opa Locka hangar		*Go ahead One, go ahead one, go ahead Charlie*	
	Opa Locka hangar		*Go ahead Charlie, go ahead Charlie bate, bate*	
15:27:02	N2506 intercom	Shit		
15:27:04	Opa Locka hangar	*who is there?*		
15:27:08	N2506 Seagull 1		Seagull Mike Seagull One	
15:27:10	N5485S Seagull M		I'm here, any word from Charlie?	
15:27:11	N2506 Seagull 1		Negative	
15:27:18	N5485S Seagull M		Do you want me to try? Well never mind	
15:27:21	N2506 Seagull 1		Do you see that smoke to my ,ah, left?	
15:27:25	N4585S Seagull M		I don't see anything now, I did see smoke	
15:27:30	N2506 Seagull 1		Err, do you see smoke below the MiG?	
15:27:33	N4585S Seagull M		I did'nt see it, see the MiG I saw smoke and a flare	
15:27:37	N2506 Seagull 1		I saw the MiG, I saw smoke	
15:27:42	N2506 Seagull 1		I do not know if it was a flare	
15:27:45	N2506 intercom	It was a flare		
	N2506 intercom	Yes?		
	N2506 intercom	It was a flare with a ..		
	N2506 intercom	with a chute?		

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
	N2506 intercom	Yeah		
15:27:54	N2506 Seagull 1		Seagull Charlie Seagull One	
	N2506 intercom	*Look over there look*		
15:27:59	N2506 intercom	Another .. Okay		
15:28:32	N2506 intercom	Flare		
15:28:37	N2506 Seagull 1		Okay we are looking to another flare, another ball of smoke	
15:28:45	N2506 Seagull 1		Charlie is that you?	
15:28:48	N2506 Seagull 1		Seagull Mike	
15:28:52	N2506 Seagull 1		Seagull Mike Seagull One	
15:29:15	N2506 Seagull 1		Seagull Mike Seagull One	
15:29:17	N2506 intercom	*Lets go home*		
15:29:19	N2506 intercom	*I'm sorry*		
15:29:20	N2506 intercom	*call Carlitos to see if he answers*		
15:29:22	N2506 Seagull 1		Seagull Charlie Seagull Charlie ah Seagull One	
15:29:46	N2506 intercom	go ahead		
15:29:48	N2506 intercom	.. flare		
	N2506 Seagull 1		Seagull Charlie Seagull Charlie	
	N2506 Seagull 1		Seagull Mike	
15:30:00	N2506 Seagull 1		M.Mike One	
	N2506 intercom	Eh?.. that's okay		

TIME	STATION	Intercom	122.75 MHz	133.7 MHz
	N2506 intercom	hold on a second		
15:30:11	N2506 intercom	*.. the other way is to go to the marine band and ask them to check the smoke and see what it is*		
15:30:22	N2506 intercom	*lets go towards the ship, over there*		
	N2506 intercom	*..to go to see where Mike is*		
	N2506 Seagull 1		Seagull Mike Seagull One .. Seagull Mike Seagull One?	
	N2506 intercom	*Well, I guess we have to get the hell out of here. You hear me?*		
	N2506 Seagull 1		Mike One?	
Recorder switched off for an unknown length of time				
	N2506 intercom	*You have everything off?*		
	N2506 intercom	*We are the next*		
	N2506 intercom	*what?*		
Recorder switched off for an unknown length of time				
			What is that?	
			.. if only you knew that all day today the repeater is not working	
			I have forty five	
			forty five?	
			we have forty five watts	
			..leaving with one .... the seven three one.	
			just a little bit.	
			I can copy very clearly, the modulation is perfect	
Recorder switched off for an unknown length of time				

Communications with Miami AIFSS

TIME	STATION	Intercom	122.75 MHz	Miami AIFSS
	N2506			I am going to Opa Locka to our base in to Opa Locka
	Miami Radio			---
	N2506			No sir I am proceeding on my own er navigation to Opa Locka. I have no emergency aboard my aircraft the emergency is with the two other aircraft
16:15:07	Miami Radio			---
16:15:19	N2506			I am proceeding to Opa Locka. I am proceeding to Opa Locka
16:15:24	Miami Radio			---
16:15:42	N2506			Roger sir, roger
Recorder switched off for an unknown length of time				

Communications with NAS Key West Approach

TIME	STATION	Intercom	122.75 MHz	Key West approach
	N2506			Key West approach Skymaster two five zero six
	N2506			Key West advises November two five zero six
	USN Key West			---
	N2506			Er, negative sir we are squawking one two two two ah for identification ah for code identification customs and err we are inbound Opa Locka we are some thirty miles west of Key West at this time and we are in the process of reporting a possible emergency with two aircraft
	USN Key West			---

TIME	STATION	Intercom	122.75 MHz	Key West approach
	N2506 intercom	*Do you want something to.. Do you want a copy of something?*		
	N2506 intercom	*Eh?*		
	N2506 intercom	*Do you want a copy of something?*		
	N2506			The emergency is two overdue aircraft ah that we think we have lost but, I'm sorry, that we have lost some thirty miles north of Havana. That is Brothers to the Rescue two aircraft and smoke that was seen in the vicinity of the area where we were tracking north of us we also saw two MIGs in the area
	USN Key West			----
	N2506			Cessna three three seven
	USN Key West			----
	N2506			Yes sir this is November five eight four five sierra and November two four five six sierra
	USN Key West			---
	N2506			The second is correct the first one is five four eight five sierra
16:25:	USN Key West			---

C. TRANSCRIPTS OF CUBAN MILITARY RADIO COMMUNICATIONS IN SPANISH

LEYENDA	
INDICATIVOS	**IDENTIFICACIÓN**
2908	PRIMER PILOTO MIG-29UB (PAREJA NO. 1)
1213	PILOTO MIG-23 (PAREJA NO. 1)
DV	DIRIGENTE DE VUELOS
2972	CAPITÁN MI-17 (BSR NO. 1)
13	COPILOTO MI-17 (BSR NO. 1)
2945	PRIMER PILOTO MIG-23 (PAREJA NO. 2)
18	SEGUNDO PILOTO MIG-23 (PAREJA NO. 2)
22	PILOTO MIG-29 (PAREJA NO. 2)
CISNE-2	PUNTO DE CONDUCCIÓN NO. 2
CISNE-8	PUNTO DE CONDUCCIÓN NO. 8
PC	PUNTO DE CONDUCCIÓN
3014	CAPITÁN MI-17 (BSR NO. 2)
43	PILOTO DE CAZA
NOTA: EN OCASIONES EL SEGUNDO PILOTO DEL MIG-29UB SE IDENTIFICA COMO 08	

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		08	PC	-DAME INDICACIONES, PORQUE YO LO QUE TENGO A LA VISTA ES LA HABANA.	
15:08:24		PC	08	-TIENE LA COSTA A LA VISTA?	
15:08:27		08	PC	-CORRECTO.	
15:08:29		PC	08	-VAMOS A PATRULLAR ENTRE LA HABANA Y GUANABO.	
15:08:33		08	PC	-REPITA.	
15:08:34		PC	08	-ENTRE LA HABANA Y GUANABO.	
15:08:37		08	PC	-ENTERADO.	
15:08:53		13	PC	-EL 13 CON RUMBO 270 AL NORTE DE LA HABANA.	
15:08:59		08	13	-ALTURA QUE TU TRAES?	
15:09:00		13	08	-200.	
15:09:03		08	13	-ENTRADO.	
15:09:39		PC	13	-1213, CISNE-2.	
15:09:43		08	PC	-EL OBJETIVO ESTA DENTRO DE LAS AGUAS.	
15:09:45		08	PC	-EL OBJETIVO ESTA ...DE NOSOTROS.	
15:09:40	15:11:06	PC	08	-AL NORTE?	-AL NORTE?
15:09:49		PC	13	1213 CONECTE UVD.	
15:09:55		PC	13	-1213 CONECTE UVD...CISNE-2.	
15:10:23		PC	13	-QUE RUMBO UD TIENE?	
15:10:28		PC	13	-13 RUMBO?	
	15:11:37	08	PC		RECIBIDO, QUE EL OBJETIVO ESTA AL NORTE POR BARACOA
15:10:31	15:11:43	13	PC	-RUMBO 270.	AL RUMBO 270.
	15:11:45	13			CORRECTO, CORRECTO. EL .....
15:10:33		PC	13	-ESO ES CORRECTO, CON RUMBO 270, A SU DERECHA TIENE EL OBJETIVO A UNA DISTANCIA DE 40 KM.	
		PC	13	-1213 CISNE-8.	
15:10:41		08	PC	-COPIADO.	
	15:11:54				OKA

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:10:43	15:11:55	13	PC	-ADELANTE CISNE-8 PARA EL 13.	-ADELANTE CISNE-8 PARA EL 13.
		--	--	-....	
15:10:47	15:11:56	PC	13	-CORRECTO, POR SU DERECHA, CURSO 330, VAMOS A TRABAJAR CONTRA UN OBJETIVO.	....CURSO 330. VAMOS A TRABAJAR CONTRA EL OBJETIVO
15:10:52	15:12:03	13	PC	-330 POR LA IZQUIERDA.	-330 POR LA IZQUIERDA.
15:10:54	15:12:04	PC	13	-CORRECTO.	CORRECTO
15:11:09	15:12:19	08	13	-13 HAY UN OBJETIVO GRANDISIMO AHÍ.	-13 HAY UN BARCO GRANDISIMO AHI.
15:11:12	15:12:21	13	08	-SI, YO LO VI AHORITA.	-SI, YA LO VI AHORITA.
15:11:31		08	PC	-290.	
	15:12:39	PC	08	-08 CONECTE IRRADIACIÓN.	CONECTE IRRADIACIÓN
15:11:36		08	PC	-NEGATIVO.	
	15:12:43	08	PC		
15:11:43	15:12:51	PC	13	-13 CONECTE IRRADIACIÓN, TODO COMPLETO.	-13 CONECTE IRRADIACIÓN, TODO COMPLETO.
15:11:46	15:12:53	13	PC	-CONECTADO.	-CONECTADO.
15:11:48	15:12:54	PC	13	-BÚSQUELO POR DEBAJO 13.	-BÚSQUELO POR DEBAJO 13.
		PC	13	-PONGA CURSO 2...360.	
15:11:51	15:12:56	PC	13	-....BÚSQUELO POR DEBAJO DE UDS. ES POR DEBAJO...AL NORTE DE BARACOA UNOS 30 KM.	ESTE POR DEBAJO.....
15:11:53		PC	13	1213 ME INFORMA EN VALORES.	
	15:13:04	13	PC	-EN VALORES EL 13.	EN VALORES
15:12:00	15:13:05	PC	13	-CORRECTO MANTENGA CURSO 360.	MANTENGA EL CURSO 330
15:12:04	15:13:08	13	PC	-EN VALORES.	EN VALORES
15:12:06		PC	13	-ENTERADO.	ENTERADO
15:12:13	15:13:17	PC	13	-ALTURA 1213?	-ALTURA 13?
15:12:15	15:13:19	13	PC	-200.	-200.
15:12:16	15:13:20	PC	13	-ENTERADO.	-ENTERADO.
15:12:22	15:13:25	08	PC	-EL 08 A 1500.	-EL 08 A 1500.
15:12:27	15:13:30	PC	08	-LOS OBJETIVOS EN ALTURA DE 200-300 M.	-LOS OBJETIVOS EN ALTURA DE 200-300 M.
15:12:31	15:13:33	08	PC	-COPIADO.	-COPIADO.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:12:34	15:13:37	PC	08	-08 BÚSQUELO POR DEBAJO DE UD.	-08 BÚSQUELO POR DEBAJO DE UD.
15:12:41	15:13:43	PC	13	-13 TREPE A ALTURA 1000.	-13 TREPE A ALTURA 1000.
15:12:44	15:13:45	13	PC	-MIL	-MIL
15:13:06	15:14:06	PC	13	-1213...NORTE DE SANTA FE, DISTANCIA 35 KM., ESTA EL OBJETIVO.	...5 KILÓMETROS AL OBJETIVO
15:13:16	15:14:15	13	PC	-ENTERADO, EL 13 EN ALTURA 1000.	-ENTERADO, EL 13 ALTURA 1000.
15:13:19		PC	--	-...CISNE-8.	
15:13:21		08	13	-13, EN ALTURA 1500 EL 08.	
		13	08	-COPIADO.	
	15:14:21	08			1500
15:13:25	15:14:23	PC	13	-COMIENCE A GIRAR POR LA DERECHA PARA CURSO 30 GRADOS.	COMIENCE A GIRAR POR LA DERECHA PARA CURSO 30 GRADOS.
15:13:28		08	PC	-EL 08?	PARA EL 08?
	15:14:26	08			
15:13:29		PC	13	-NO, EL 13, 1213 CISNE-8.	AL 13.
15:13:32	15:14:30	13	PC	-COPIADO CISNE-8, 30 GRADOS POR LA DERECHA.	COPIADO CISNE-8, 30 GRADOS POR LA DERECHA.
15:13:39	15:14:35	13	PC	-CISNE-8, AQUÍ LO QUE TENGO ABAJO ES UN BARCO GRANDE.	CISNE-8, AQUÍ LO QUE TENGO ABAJO ES UN BARCO GRANDE.
15:13:44	15:14:40	PC	13	-1213 TIENE UN OBJETIVO 10 GRADOS A SU IZQUIERDA, DISTANCIA 12 KM.	1213 TIENE UN OBJETIVO 10 GRADOS A SU IZQUIERDA, DISTANCIA 12 KM.
15:13:50	15:14:46	13	PC	-NEGATIVO, ESTO ES UN BARCO GRANDE LO QUE TENGO AQUÍ, A LA IZQUIERDA.	NEGATIVO, ESTO ES UN BARCO GRANDE LO QUE TENGO AQUÍ, A LA IZQUIERDA.
15:14:01	15:14:55	PC	13	-SIGUE BUSCANDO 1213.	SIGUE BUSCANDO.
15:14:04	15:14:56	13	PC	-ENTERADO.	ENTERADO.
15:14:09	15:15:02	13	PC	-EL 13 GIRANDO POR LA IZQUIERDA 270.	GIRANDO POR LA IZQUIERDA AL 270.
	15:15:11				LO QUE TENGO A LA IZQUIERDA EN ESTOS MOMENTOS ES UN BARCO DE PASAJEROS GRANDE.
15:14:30	15:15:26	PC	13	-1213 CISNE-8.	1213 ES CISNE 8.
15:14:33	15:15:27	13	PC	-ADELANTE CISNE-8.	-ADELANTE CISNE-8.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:14:36	15:15:28	PC	13	-EHH... USTED... EL OBJETIVO QUE ESTA INFORMANDO LO TIENE DELANTE?	
15:14:40	15:15:37	13	PC	-EN ESTOS MOMENTOS A LA IZQUIERDA.	EN ESTOS MOMENTOS A LA IZQUIERDA.
15:14:42	15:15:40	PC	13	-ENTERADO.	ENTERADO.
15:15:03	15:15:57	PC	13	-NO VE EL OBJETIVO, 13?	NO VE EL OBJETIVO, 13?
15:15:05	15:15:59	13	PC	-REPITA.	REPITA.
15:15:06		PC	13	-EL OBJETIVO LO TIENE DENTRO DEL RADIO DE GIRO SUYO, EN ESTOS MOMENTOS.	
	15:16:00	PC			EL OBJETIVO LO TIENE (?)
15:15:10	15:16:04	13	PC	-CORRECTO,UN BARCO ES LO QUE TENGO.	CORRECTO,UN BARCO ES LO QUE TENGO.
15:15:13	15:16:06	PC	13	-ENTERADO, VAMOS A SEGUIR BUSCANDO.	ENTERADO, VAMOS A CONTINUAR UN POCO ADELANTE
15:15:24		PC	13	-1213 CISNE-8	
		PC			DISTANCIA?
15:15:27	15:16:19	13	PC	-ADELANTE CISNE 8.	ADELANTE CISNE-8.
15:15:28	15:16:22	PC	13	-EL BARCO NO TIENE NADA AFUERA DE EL... UN GLOBO.	EL BARCO NO TIENE NADA AFUERA DE EL?. UN GLOBO?
15:15:32	15:16:24	13	PC	-NEGATIVO. NO SE LE CONTEMPLA NADA.	NEGATIVO. NO SE LE OBSERVA NADA.
15:15:36	15:16:27	PC	13	-ENTERADO.	ENTERADO.
15:15:50	15:16:40	PC2	PC	-CISNE 8 USTED... TIENE A LA VISTA AL 08?	CISNE-8 USTED... TIENE A LA VISTA AL 08?
15:15:54	15:16:46	PC	PC2	-CORRECTO.	CORRECTO.
15:16:28	15:17:16	13	PC	-ADELANTE.	ADELANTE.
15:16:29	15:17:17	PC	08	-BIEN. PARA EL 08. CONECTE UVD.	BIEN. PARA EL 08. CONECTE UVD.
15:16:33	15:17:20	13	PC	-COPIADO CONECTADO UVD.	COPIADO CONECTADO UVD.
15:16:39	15:17:26	08	PC	-CONECTADO.	CONECTADO.
	15:17:28	PC	08	-CONTINUE OCUPANDOSE DE ESA ZONA. 08.	CONTINUE BUSCANDO EN ESA ZONA.
15:16:48	15:17:34	PC	13	-EHH... 13 EL OBJETIVO ESTA AL NORTE DE SANTA FE. DISTANCIA 25 KM.	13. EL OBJETIVO ESTA AL NORTE DE SANTA FE. DISTANCIA 25 KM.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:16:55	15:17:39	13	PC	-ENTERADO, EN ESTOS MOMENTOS CON RUMBO 180 ALTURA 1000.	ENTERADO, EN ESTOS MOMENTOS CON RUMBO 180 ALTURA 1000.
15:16:59	15:17:44	PC	08	-REPITA, 08.	REPITA, 08.
15:17:01	15:17:47	13	PC	-EL 13 CON RUMBO 180, ALTURA 1000.	CON RUMBO 180, ALTURA 1000.
15:17:04	15:17:49	13	C8	-ENTERADO	ENTERADO
15:17:10		PC	08	-08, LO TIENE A LA IZQUIERDA DISTANCIA 10 KM.	
15:17:15	15:17:55	13	PC	EL 13 CON OTRO BARCO A LA VISTA, CON RUMBO...A 90 GRADOS, A LA DERECHA.	CON OTRO BARCO A LA VISTA CON 90 GRADOS A LA DERECHA
		PC	13	-ENTERADO, 13.	
15:17:28	15:18:11	PC	08	-LO TIENE A LA IZQUIERDA 30 GRADOS, DISTANCIA 10 KM.	LO TIENE A LA IZQUIERDA 30 GRADOS, DISTANCIA 10 KM.
15:17:34	15:18:17	PC	08	-ME COPIO 08?	ME COPIO 08?
15:17:36	15:18:18	08	PC	-COPIADO.	REPITA
15:17:48	15:18:27	PC	08	-08, BUSQUE EL OBJETIVO 90 GRADOS A LA IZQUIERDA, AHORA.	BUSQUE A LA IZQUIERDA
	15:18:28	08	PC		MIRE...
15:17:50	15:18:33	08	PC	-OK. OBJETIVO A LA VISTA, OBJETIVO A LA VISTA, AVIONETA.	-OKA. OBJETIVO A LA VISTA, OBJETIVO A LA VISTA, AVIONETA. COPIADO AVIONETA A LA VISTA.
15:17:56		PC	08	-ENTERADO.	
15:17:56		08	PC	-AVIONETA A LA VISTA.	
15:17:58	15:18:38	08	PC	-OK. LA TENEMOS A LA VISTA, LA TENEMOS A LA VISTA.	OCA. LA TENEMOS A LA VISTA, LA TENEMOS A LA VISTA
15:18:03	15:18:45	08	PC	-OBJETIVO A LA VISTA.	OBJETIVO A LA VISTA.
15:18:06		08	PC	-CISNE-8....08.	
15:18:09	15:18:47	PC	08	-ADELANTE 08.	ADELANTE
15:18:09	15:18:49	08	PC	-A LA VISTA EL OBJETIVO.	A LA VISTA EL OBJETIVO.
15:18:11	15:18:52	PC	08	-CORRECTO, A LA VISTA.	AVIONETA A LA VISTA
15:18:14		PC	08	-IDENTIFIQUELA.	
15:18:18	15:18:57	08	PC	-REPITA.	REPITA.
15:18:19		PC	08	-IDENTIFIQUE LA AVIONETA.	

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:18:20	15:19:00	08	PC	-ES UNA AVIONETA, ES UNA AVIONETA.	ES UNA AVIONETA, ES UNA AVIONETA.
15:18:23		PC	08	-COLOR DE LA AERONAVE?	
15:18:26	15:19:04	08	PC	-EHH...BLANCA, BLANCA.	ES BLANCA, BLANCA
15:18:31	15:19:10	13	08	-08 VOY A TREPAR A ALTURA 2000.	VOY A TREPAR A ALTURA 2000.
15:18:33	15:19:12	PC	08	-COLOR Y MATRICULA DE LA AVIONETA?	COLOR Y MATRICULA DE LA AVIONETA?
15:18:36	15:19:15	PC	08	-CHEQUE LA MATRICULA.	CABALLERO
15:18:38	15:19:17	08	PC	-OYE, LA MATRICULA TAMBIÉN?	OYE, LA MATRICULA TAMBIÉN?
15:18:41	15:19:19	PC	08	-QUE TIPO Y COLOR?	QUE TIPO Y COLOR?
15:18:44	15:19:22	08	PC	-BLANCA Y AZUL	BLANCA Y AZUL
15:18:46		13	PC	-BLANCA Y AZUL	
15:18:47	15:19:24	08	PC	-BLANCA Y AZUL, LA AVIONETA ESTA A BAJA ALTURA, AVIONETA.	BLANCA Y AZUL, ESTA A BAJA ALTURA, AVIONETA.
15:19:03	15:19:38	08	PC	-DAME INSTRUCCIONES.	DAME INSTRUCCIONES.
15:19:07		PC	08	-ES UN 337.	
15:19:09	15:19:44	08	PC	-INSTRUCCIONES.	INSTRUCCIONES.
15:19:17	15:19:52	08	PC	-ÓYEME, AUTORIZAME A..., VAMOS A DARLE UN PASE.	ÓYEME, AUTORIZAME A...,
15:19:20	15:19:54	13	PC		VAMOS A DARLE UN PASE
15:19:23		PC	08	-A QUE DISTANCIA ESTA?	
15:19:26	15:20:02	08	PC	-SI LE DAMOS UN PASE SE NOS COMPLICA LA COSA.	SI LE DAMOS UN PASE SE NOS COMPLICA LA COSA.
	15:20:04				VAMOS A DARLE UN PASE. PORQUE SE ESTÁN ACERCANDO UNOS BARCOS AHI, LE VOY DAR UN PASE
15:19:29		08	PC	-VAMOS A DARLE UN PASE.	
15:19:34		08	PC	-ES UN CESSNA 337.	
15:19:41	15:20:12	08	PC	-HABLEN, HABLEN.	HABLEN, HABLEN.
15:19:45		PC	08	-DIME SI ES UN CESSNA 337?	
15:19:51	15:20:22	08	PC	-LO TENGO EN CAPTURA, LO TENGO EN CAPTURA.	LO TENGO EN CAPTURA, LO TENGO EN CAPTURA.
15:19:53	15:20:24	08	PC	-LO TENEMOS EN CAPTURA, AUTORIZARNOS.	LO TENEMOS EN CAPTURA, AUTORIZARNOS.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:19:57		08	PC	-LO TENEMOS EN CAPTURA, AUTORIZARNOS.	
15:20:00	15:20:32	08	PC	-ES UN CESSNA 337.	ES UN CESSNA 337. ES ESA. AUTORIZARNOS COJONES.
15:19:29		PC	08	-AUTORIZADO A DESTRUIR.	
15:20:03		08	PC	-ES ESA, ES ESA, ES ESA.	
15:20:06		PC	08	-AUTORIZADO A DESTRUIR 08.	
	15:20:40	PC	08		FUEGO
15:20:11	15:20:42	08	PC	-AUTORIZARNOS COJONES.	AUTORIZARNOS COJONES. QUE LA TENEMOS
15:20:13		08	PC	.....QUE LA TENEMOS.	
15:20:14	15:20:44	PC	08	-AUTORIZADO A DESTRUIR 08.	AUTORIZADO A DESTRUIR
15:20:17	15:20:48	08	PC	-EHH...YA LE PASAMOS.	VOY A PASARLO
15:20:20		PC	08	-AUTORIZADO.	
15:20:23	15:20:51	PC	08	-AUTORIZADO A DESTRUIR.	AUTORIZADO A DESTRUIR.
15:20:25	15:20:54	08	PC	-YA TE COPIAMOS, YA TE COPIAMOS.	YA TE COPIAMOS, YA TE COPIAMOS.
15:20:27		PC	08	-AUTORIZADO A DESTRUIR 08.	
15:20:34	15:21:02	08	C8	-DONDE ESTA FRANK?	DONDE ESTA FRANK?
15:20:39		PC	08	-08 AUTORIZADO A DESTRUIR.	
		08	--	-YA.	
15:20:40		PC	08	-08 AUTORIZADO A DESTRUIR...	
15:20:43	15:21:08	PC	08	-AUTORIZADO.	AUTORIZADO A DESTRUIR
15:20:45	15:21:15	08	PC	-ENTERADO, YA SE RECIBIÓ, YA SE RECIBIÓ, DÉJANOS TRANQUILO AHORA.	ENTERADO, YA SE RECIBIÓ, YA SE RECIBIÓ, DÉJANOS TRANQUILO AHORA.
15:20:57	15:21:23	PC	08	-NO LA PIERDA 08.	NO LA PIERDA 08.
15:21:07	15:21:32	08	PC	-PRIMER DISPARO.	PRIMER DISPARO.
15:21:13	15:21:37	08	PC	-OBJETIVO. .LE DIMOS COJONES, LE DIMOS, LE DIMOS, OBJETIVO...	LE DIMOS COJONES, LE DIMOS, LE DIMOS, LO RETIRAMOS
15:21:23	15:21:46	08	08	-ESPÉRATE, ESPÉRATE, PARA QUE VE..., PARA VER DONDE CAE.	ESPÉRATE, PARA QUE VER A DONDE CAE.
15:21:25		08	PC	-MARQUEN, MARQUEN AHI.	
	15:21:52	08	--	-COJONES LE DIMOS...	ENTREN, ENTREN. COJONES, LE DIMOS. CHINGADOS.

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	15:21:56	08	PC		MARQUEN EL LUGAR LO RETIRAMOS
15:21:35	15:21:59	08	--	-ESTE NO JODE MAS	ESTAMOS EN SOBRO ELLA. ESTO NO JODE MAS.
	15:22:01	PC	08		FELICITACIONES A LOS DOS
15:21:39	15:22:03	08	PC	-OYE, MARQUEN EL LUGAR.	MARQUEN EL LUGAR.
15:21:41	15:22:09	08	PC	-CORRECTO, MARCADO.	CORRECTO, MARCADO.
15:21:42	15:22:11	08	13	-... COMO COMPADRE	CO..O, COMPADRE
15:21:44		PC	08	- 13 DIME 08.	
15:21:46	15:22:14	08	PC	-ADELANTE.	ADELANTE
15:21:48		PC	08	-DIME QUE ES LO QUE HAY?	
15:21:51	15:22:18	PC	08	-DESPEGANDO LA BSR, AUTORIZADO A 1000 M.	VAMOS ALBERTO. DESPEGANDO A LA BSR, AUTORIZADO A 1000 M.
15:21:55	15:22:21	08	PC (13)	-MÁRCALO...MARCARON EL LUGAR?	MARCARON EL LUGAR?
15:21:57	15:22:23	PC(13)	08	-CORRECTO, CORRECTO.	CORRECTO
		08	PC	-OYE, MARCARON EL LUGAR?	
	15:22:31				HAY UNA LANCHA CERCA DE ELLA. LA AVIONETA CAYO CERCA DE ELLA
15:22:00	15:22:39	08	PC	-OYE, MARCARON EL LUGAR? PARA IRNOS.	OYE, MARCARON EL LUGAR? PARA IRNOS.
15:22:02	15:22:40	PC	08	-CORRECTO, MARCADO.	CORRECTO
15:22:04	15:22:44	08	PC	-BÁRBARO.	BÁRBARO.
15:22:05	15:22:50	BSR	DV	-BSR, ME COPIAS? ANTONIO.	ME COPIA
15:22:16	15:22:54	PC	08	-BIEN, VAMOS A TREPAR PARA ALTURA 4000 M.	A TREPAR PARA ALTURA 4000 M.
15:22:19	15:22:58	08	PC	-ESTAMOS TREPANDO, REGRESANDO A CASA.	ESTAMOS TREPANDO, REGRESANDO A CASA.
15:22:22	15:23:00	PC	08	-MANTENGA AHI, HACIENDO UN 360, ALLÁ ENCIMA.	MANTENGA AHI, HACIENDO UN 360, ALLÁ ENCIMA.
15:22:27	15:23:07	08	PC	-ENCIMA DEL OBJETIVO?	ENCIMA DEL OBJETIVO?
15:22:29	15:23:09	PC	08	-CORRECTO.	CORRECTO.
15:22:30	15:23:10	08	PC	-CORO, SI TE LO DIJIMOS COMPADRE.	CO..O, SE LO DIJIMOS COMPADRE.

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15:22:32	15:23:11	PC	08	-CORRECTO, EL OBJETIVO ESTA MARCADO	CORRECTO, EL OBJETIVO ESTA MARCADO.
15:22:36	15:23:13	13	PC	-EL 13 ORBITANDO AL ESTE...OESTE DE BARACOA.	ORBITANDO AL OESTE DE BARACOA.
15:22:39	15:23:17	PC	13	-CORRECTO, A LA VISTA, 18 DEL CAMPO.	A LA VISTA, 18 DEL CAMPO.
15:22:50		PC	08	-08 CISNE-2.	
15:22:51	15:23:27	08	PC	-ADELANTE.	ADELANTE
15:22:53	15:23:28	PC	08	-FÍJATE, VAMOS A TREPAR A ALTURA 3200-4000 M POR ENCIMA DEL OBJETIVO DESTRUIDO AHI.... Y MANTENGA VELOCIDAD ECONÓMICA.	SI RESERVAMOS A TREPAR A ALTURA 3200-4000 M POR ENCIMA DEL OBJETIVO DESTRUIDO AHI Y MANTENGA VELOCIDAD ECONÓMICA.
	15:23:39	78	C2		OYE, LA LANCHA PARECE QUE GIRO PARA AHI.
	15:23:41	13	PC		LA LANCHA GIRO PARA AHI, OISTES?
	15:23:47	13	PC		LA LANCHA GIRO PARA DONDE ESTABA, PARA DONDE GIRO EL OBJETIVO.
15:23:07		DV	72	-2972 ANTONIO.	
15:23:12		DV	72	-72 ANTONIO.	
15:23:23		PC	08	-08 CISNE-2	
15:23:26	15:24:09	08	PC	-ADELANTE.	ADELANTE
15:23:28	15:24:10	PC	08	-EHH...HACE FALTA QUE TE MANTENGAS ARRIBA, AHI...	EHH...HACE FALTA QUE SE MANTENGA ... AHI... LA LANCHA QUE RUMBO LLEVABA.
	15:24:18	08	C2		LA LANCHA LA PUSO 180
	15:24:22	13	C2		LLEVABA 360 Y AHORA VIRO PARA 180 PARA EL LUGAR DONDE ESTABA
15:23:30	15:24:25	08	PC	-...TENGO OTRA AVIONETA A LA VISTA.	OTRA AVIONETA A LA VISTA
15:23:33	15:24:27	08	PC	-TENEMOS OTRA AVIONETA.	TENEMOS OTRA AVIONETA, TENEMOS OTRA AVIONETA
15:23:36		08	PC	-TENEMOS OTRA AVIONETA.	
15:23:41	15:24:35	PC	08	-CORRECTO, DALE SEGUIMIENTO, NO PIERDA LA OTRA AVIONETA.	DALE SEGUIMIENTO, NO PIERDA LA OTRA AVIONETA.
15:23:45	15:24:38	08	PC	-TENEMOS OTRA AVIONETA A LA VISTA.	TENEMOS OTRA AVIONETA A LA VISTA.

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15:23:47		PC	08	-POSICIÓN DE ESA AVIONETA?	
15:23:50		PC	08	-DÍGAME A QUE DISTANCIA A TIENES 08?	
15:23:54		08	PC	-ESTA EN LA REGIÓN, ESTA EN LA REGIÓN DONDE CAYO.	ESTA EN LA REGIÓN DONDE CAYO
		--	--	-...ALTURA?	
	15:24:44	08	PC	-TENEMOS LA AVIONETA A LA VISTA.	TENEMOS LA AVIONETA A LA VISTA
15:24:01		PC	08	-08, POSICIÓN DE ESA AVIONETA?	
15:24:03	15:24:53	PC	08	-MANTÉNGASE 08...	MANTÉNGASE
15:24:04	15:24:55	08	PC	-COMPAÑERO, ESTA EN ALTURA, EN EL LUGAR DE LOS HECHOS.	COMPAÑERO, ESTA EN EL LUGAR DE LOS HECHOS.
15:24:07		PC	08	-CORRECTO.	
15:24:10	15:25:01	08	PC	-COPIARON?	-COPIARON?
15:24:12		DV	72	-2972 ANTONIO.	
15:24:19		PC	08	-BIEN, 08 Y 13, HACE FALTA SE MANTENGAN AHI, ENCIMA DE LA AVIONETA, NO LA PIERDA DE VISTA.	
15:24:25				-SI.	
	15:25:14	08	13	-QUE ALTURA TU TIENES 13?	QUE ALTURA TIENES?
15:24:27		08	13	-13, 08.	
15:24:29		13	08	-ADELANTE.	
15:24:30		08	13	-ALTURA?	
15:24:31	15:25:20	13	08	-NO, YO TENGO 1000 M., ESTOY LEJOS DE USTEDES, ESTOY AL OESTE DE BARACOA.	NO, YO TENGO 1000 M., ESTOY LEJOS DE USTEDES, ESTOY AL OESTE DE BARACOA.
15:24:36	15:25:27	08	13	-NO TE PEGUES AQUÍ..	ES VERDAD NO TE PEGUES AQUÍ QUE NOSOTROS TENEMOS 5000 METROS
15:24:40		13	08	-ENTERADO.	
15:24:41	15:25:30	08	PC	-LA AVIONETA VA CON RUMBO 90 AHORA.	LA AVIONETA ESTA VA CON RUMBO 90 GRADOS AHORA
15:24:45		PC	08	-COLOR BLANCA Y NARANJA?	
15:24:48	15:25:34	08	PC	-ESTA EN LA REGIÓN DE LOS HECHOS, DONDE CAYO EL OBJETIVO, HACE FALTA QUE NOS AUTORICEN.	ESTA EN LA REGIÓN DE LOS HECHOS, DONDE CAYO EL OBJETIVO, HACE FALTA QUE NOS AUTORICEN.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:24:51	15:25:40	08	PC	-LA BSR NO HACE FALTA, AHI NO QUEDA NADA.	LA BSR NO HACE FALTA, AHI NO QUEDA NADA.
15:24:56	15:25:44	PC	08	-CORRECTO, FIJARTE, MIRA, MANTÉNGASE DÁNDOLE SEGUIMIENTO A LA AVIONETA, MANTENGA DÁNDOLE SEGUIMIENTO Y POR ENCIMA DE ELLA.	CORRECTO, MANTENER CIEGAMENTE A LA AVIONETA, VAS A MANTENERTE POR ENCIMA DE ELLA
15:25:01	15:25:47	08	PC	ESTAMOS ARRIBA DE ELLA, ARRIBA DE ELLA	ESTAMOS ARRIBA DE ELLA ARRIBA DE ELLA
15:25:04	15:25:52	PC	08	-CORRECTO, 08 Y 13, AUTORIZADO DESTRUIR LA SEGUNDA.	CORRECTO....
15:25:08	15:25:55	08	PC	-PARA QUE, PARA QUE?	PARA QUE
15:25:12		PC	08	-DESTRUIR LA SEGUNDA.	
15:25:13		08	--	-VAMOS.	
15:25:16		PC	08	-PREPARÁNDOSE, CÓMODO AHI, SIN PROBLEMA.	
15:25:19	15:26:01	08	PC	-ESTA AUTORIZADA LA OTRA?	ESTA AUTORIZADA LA OTRA?
15:25:21	15:26:04	PC	08	-CORRECTO, AUTORIZADO.	CORRECTO
	15:26:07	PC	08		BÁRBARO. VAMOS ALBERTO
15:25:24	15:26:09	13	08	-LA TIENES?	LA TIENE?
15:25:28	15:26:14	PC	13	-13, POR AQUÍ EL 020, ESTA AUTORIZADO A DESTRUIRLA.	ESTA AUTORIZADO A DESTRUIRLA
15:25:32	15:26:16	08	PC	ENTERADO, ENTERADO, YA LA VAMOS A DESTRUIRLA	ENTERADO,ENTERADO YA LA VAMOS A DESTRUIR YA.
15:25:51	15:26:34	PC	08	-LA MANTIENEN A LA VISTA 08?	LA MANTIENE A LA VISTA?
15:25:52	15:26:36	08	PC	-LA MANTENEMOS, LA MANTENEMOS, ESTAMOS TRABAJANDO, DÉJANOS TRABAJAR.	LA MANTENEMOS, LA MANTENEMOS, ESTAMOS TRABAJANDO, DÉJANOS TRABAJAR.
15:25:56		PC	08	-CORRECTO, PROCEDA.	
15:26:10		22	DV	-EL 22 EN LA UNO.	
15:26:53		45	DV	-45 EN LA UNO.	
15:26:57		DV	45	-CORRECTO.	
15:26:59					
15:27:14		PC	08	-DIME 08?	
15:27:16	15:27:52	08	PC	-CALMA, CALMA.	CON CALMA.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:27:18		--	PC	-DÉJELOS TRABAJAR, DÉJALOS TRABAJAR.	
15:27:28		PC	08	-EL UNO 08?	
15:27:39	15:28:13	08	PC	-LA OTRA DESTRUIDA, LA OTRA DESTRUIDA, PATRIA O MUERTE COJONES, LA OTRA ABAJO TAMBIÉN.	LA OTRA DESTRUIDA, LA OTRA DESTRUIDA, PATRIA O MUERTE COJONES, LA OTRA ABAJO TAMBIÉN
15:27:52	15:28:27	BSR	08	-08 MANTÉNTE QUE VAMOS HACIA EL PUNTO, AL LUGAR.	MANTÉNTE QUE VAMOS PUESTO ... AYUDAR..
15:27:56	15:28:32	08	PC	-OK, EL 08 TIENE EL UNO 12 YA.	TIENE EL UNO EN 12 YA.
	15:28:35				EN EL LUGAR DE LOS HECHOS ESTA EL BARCO RECOGIENDO AHI PARECE. UN BARCO RECOGIENDO... EN LA PRIMERA.
15:27:59	15:28:49	08	PC	-EL UNO 12, REGRESANDO.	EN LA PRIMERA ESTA RECOGIENDO UN BARCO. EL UNO DOCE REGRESANDO.
15:28:03	15:28:56	BSR	PC	-EL 13 (BSR) CALMITO.	UNO DOS TRES CALMITO
	15:29:02				TEN EN CUENTA QUE HAY UN BARCO AHI, TENGA CUIDADO
	15:29:04				HAY UN BARCO PESQUERO
15:28:10		BSR	PC	-DIME EL CURSO DE EL. SALIENDO DE BARACOA.	
15:28:13		PC	BSR	-SALIENDO DE QUE?	
	15:29:05	PC	13		CORRECTO
15:28:15	15:29:11	BSR	PC	-SALIENDO DE BARACOA, DAME CURSO.	SALIENDO DE BARACOA, DAME CURSO.
15:28:17		PC	BSR	-DE BARACOA PONGA CURSO 330, A 5 KM.	
15:28:23	15:29:21	BSR	PC	-CURSO 330 DE BARACOA?	CURSO 330 DE BARACOA? ESTOY YA AL FINAL DE LA 02 ME VOY DIRECTO.
15:28:25		PC	BSR	-CORRECTO.	
15:28:26		BSR	PC	-CORRECTO, ESTOY AL FINAL DE LA 02..., VOY DIRECTO.	
15:28:35	15:29:37	PC	BSR	-270.	.. 70
15:28:40		BSR	PC	-DOS SIETE CERO.	
15:28:44		PC	BSR	-A UNOS 5 KM. DEL ESPERON, AL NORTE DEL ESPERON.	
15:28:49		BSR	PC	-CORRECTO.	

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15:28:53	15:29:52	08	PC	-OK, EL 08 VA A ENTRAR POR GUANABO.	EL 08 VA A ENTRAR POR GUANABO.
15:29:02	15:29:58	PC	08	-DAME EL UNO 08.	DAME EL UNO 08.
15:29:03	15:30:00	08	PC	-EL UNO 11.	EL UNO 11.
15:29:05	15:30:02	PC	08	-08, HAGA CONTACTO CON EL 2972 (BSR), Y DIRÍJALO MAS O MENOS AL LUGAR.	HAGA CONTACTO CON EL 2972 (BSR), Y DIRÍJALO MAS O MENOS ..BOMBEROS..AL LUGAR
15:29:10		08	72	-2972, 08.	
	15:30:07	72	08		ADELANTE
	15:30:08	08	72		OCA. HAY UN BARCO GRANDE DE PASAJEROS QUE ESTA CERCA DE LA ZONA. ES DECIR EL BARCO VA CON RUMBO 90 APROXIMADAMENTE. Y ESO QUEDA A LA DERECHA DEL BARCO ESE. DEL BARCO GRANDE.
15:29:12	15:30:31	72	08	-ESTAMOS CHEQUEANDO, MAS O MENOS, MENELAO MORA, MENELAO MORA, AQUÍ EN LA ZONA DE PLAYA BARACOA.	ENTERADO. NOSOTROS ESTAMOS CHEQUEANDO, MAS O MENOS, MELENAO MORA, AQUÍ EN LA ZONA DE PLAYA BARACOA.
15:29:17		08	72	-ESTA BIEN.	
15:29:27		08	DV	-ANTONIO...ANTONIO, 08.	
15:29:33		DV	08	-ADELANTE.	
	15:30:36	08	72		ROMPE 360 Y BUSCA EL BARCO, EL BARCO GRANDE Y A LA DERECHA DEL BARCO, ANTES DE LLEGAR AL BARCO GRANDE, ESTA EL OBJETIVO. NO VALLAN MUY BAJITO. (PAUSE) NO TE APROXIMES DEBAJO. TEN CUIDADO QUE EN LA ZONA DE DONDE CAYO LA PRIMERA HAY UN OBJETIVO, UN BARCO, TEN EN CUENTA ESO. TEN CUIDADO CON ESO.
	15:30:54	72	08		ENTERADO.
15:29:33	15:31:07	08	PC	-HACE FALTA QUE DESPEGUE UN RÁPIDO PARA LA REGIÓN.	-HACE FALTA QUE DESPEGUE UN RÁPIDO PARA LA REGIÓN.
15:29:37		45		45 LIST CON AIRE-TIERRA.	
15:29:40		22	DV	-Y EL 22.	
15:29:41		DV	45	-MANTENGA, MANTENGA.	

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15:29:46		BSR	PC	-CISNE-2 INDICACIONES PARA EL 13 (BSR).	
15:29:58		08	PC	-OK, SOBRE LA COSTA EL 08.	
15:30:01		--	--	-VIENE APROXIMÁNDOSE OTRA.	
15:30:22	15:31:55	PC	08	-08 EL UNO?	EL UNO?
15:30:23	15:31:57	08	PC	-EL UNO 10.	EL UNO 10.
15:30:26	15:32:01	PC	13	-13 EL UNO?	EL UNO?
15:30:28	15:32:02	13	PC	-EL UNO 15?	EL UNO 15?
15:30:31	15:32:06	PC	13	-ENTERADO, ALTURA?	ALTURA?
15:30:33	15:32:07	13	PC	-MIL METROS AL OESTE DE BARACOA.	-MIL METROS AL OESTE DE BARACOA.
15:30:36	15:32:09	PC	13	-MANTENGA, MANTENGA ALTURA 1000 M.	-MANTENGA ALTURA DE 1000 M.
15:30:41	15:32:16	BSR	08	-08, 13.	
15:30:43		PC	08	-EL UNO 08?	
15:30:46		08	PC	-EL UNO 10.	
15:30:48	15:32:20	PC	08	-CUANTO?	
15:30:50		08	PC	-10.	
15:30:51				08, 13.	
15:30:53		08	BSR	-ADELANTE.	
15:30:54	15:32:25	BSR	08	-HAY UN BARCO AHI AL NORTE - DE LA ACADEMIA NAVAL, UNOS 5 KM.	-TENGO EL BARCO AHI AL NORTE DE LA ACADEMIA, DE LA ACADEMIA NAVAL A UNOS 5 KILÓMETROS, GRANDE.
		13	08		-PERO ES UN BARCO INMENSO, BLANCO DE PASAJEROS.
		08	13		-CORRECTO.
		13	08		-NO ESTA A 5 KILÓMETROS, ESTA LEJOS.
15:30:59		DV	45	-45, ANTONIO...ARRANQUE, TAXEO Y DESPEGUE.	
15:31:03		PC	08	-2908 HAGA CONTACTO CON EL 2972 (BSR) PARA VER POSICIÓN.	-HAGA CONTACTO CON 2L 2972 A VER LA POSICIÓN.
15:31:10		08	72	-2972, ANTONIO...EHH, 08.	
15:31:14	15:32:50	BSR	08	-08 TENGO UN OBJETIVO A LA VISTA, TENGO EL OBJETIVO.	-TENGO EL OBJETIVO A LA VISTA, TENGO EL OBJETIVO.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		08	BSR		-COPIADO, HAY UNA LANCHA AHI QUE ESTA RECOGIENDO AHI.
		BSR	08		-OYE, ESTOY A UNOS 10 KILÓMETROS DEL OBJETIVO.
		08	BSR		-ESO ES CORRECTO. O SEA EL BARCO GRANDE TE VA SEÑALAR MAS O MENOS A LA DERECHA Y UN POQUITO ANTES DE LLEGAR AL BARCO GRANDE ESTA UN BARCO CHIQUITO AHI DONDE ESTA, DONE CAYO LA PRIMERA.
		BSR	08		-NO, PERO ESTOY CON RUMBO 320 DE ...
15:31:16		DV	08	-08, ANTONIO.	
15:31:18		08	DV	-ADELANTE.	-ADELANTE.
15:31:19		DV	08	-EL 45 YA VA PARA ALLÁ.	
15:31:21		08	DV	-RECIBIDO.	-RECIBIDO. ME ENCUENTRO AL SUR DE BOYEROS.
15:31:22		08	DV	-EL 08, ME ENCUENTRO AL SUR DE BOYEROS.	
15:31:28		PC	08	-ALTURA?	ALTURA?
15:31:29	15:33:27	08	PC	-4500 M.	4,500 METROS.
15:31:31		PC	08	-CORRECTO, MANTENGA LA ALTURA E INFORME EN SEGUNDO.	CORRECTO, MANTENGA LA ALTURA ...
15:31:33	15:33:32	08	PC	-COPIADO.	COPIADO.
15:31:35		22	DV	-ANTONIO, EL 22 ARRANCANDO.	
15:31:43		3014	DV	-ANTONIO, EL 3014.	
15:31:53				-ANTONIO, EL 3014	
15:31:58		08	DV	-ANTONIO, EL 3014 LO ESTA LLAMANDO.	ANTONIO, 3014 LO ESTA LLAMANDO
15:32:03	15:33:58	DV	--	-ADELANTE PARA ANTONIO.	ADELANTE.
15:32:05		14	DV	-EL 3014 EN LA UNO.	
15:32:07		DV	--	-BIEN, 08 Y 13, VAMOS A REALIZAR UN TRAFICO CORTO.	VAMOS A REALIZAR UN TRAFICO CORTO.
15:32:11		08	DV	-EL 08 PRÓXIMO AL SEGUNDO, AUTORIZAME A DESCENDER.	PRÓXIMO AL SEGUNDO, AUTORICEME A DESCENDER.
15:32:15	15:34:05	DV	08	-AUTORIZADO A DESCENDER PARA EL ATERRIZAJE DIRECTO.	AUTORIZACIÓN DESCENDER PARA EL ATERRIZAJE A ...
15:32:19		08	DV	-08.	08.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:32:25	15:34:12	13	DV	-EL 13 MANTENGO 1000 M. AL CAMPO.	MANTENGO 1,000 METROS AL CAMPO.
15:32:37		14	DV	-ANTONIO, 3014 EN LA UNO.	
15:32:43		DV	13	-ENTERADO 13.	
15:33:09		PC	45	-45, ANTONIO-1.	
15:33:11		45	PC	-ALTO Y CLARO.	
15:33:12		PC	45	-VAMOS HA HACER UNA EXPLORACIÓN, SOBRE BEJUCAL, BUSCA OBJETIVO CON RUMBO 240.	VAMOS A HACER UNA EXPLORACIÓN UN OBJETIVO ENTRANDO CON RUMBO 240.
15:33:15		45	PC	-GIRANDO POR LA DERECHA PARA BEJUCAL.	GIRANDO POR LA DERECHA PARA ...
15:33:24	15:35:10	PC	45	-2945, DESPEGANDO, POR LA DERECHA, PRÓXIMO A BEJUCAL, OBSERVA EL AVIÓN ESE QUE VIENE APROXIMÁNDOSE.	2945 ME POR LA DERECHA PRÓXIMO...DE LA SALUD A BEJUCAL OBSERVAR EN EL AÉREA ESTA QUE VIENE ...
15:33:34		08	DV	-EL 08 1500 EN GIRA.	A 1,500 METROS EN EL SEGUNDO.
15:33:39		08	45	-COPIASTE 45?	COPIASTE 45?
15:33:42		45	08	-CORRECTO.	CORRECTO.
15:33:43	15:35:25	08	45	-YO VOY A IR DESCENDIENDO PARA EL ATERRIZAJE.	VOY A IR DESCENDIENDO PARA ATERRIZAR.
		45	08		COPIADO, COPIADO.
15:33:45		PC	08	-CONTINUÉ 08. EL 45 ESTA....	
15:33:47		--	--	-DESPESANDO EL 22.	
15:33:51		13	DV	-EL 13, RUMBO AL CUARTO 1000.	RUMBO AL CUARTO, 1,000 METROS.
15:34:18	15:35:59	PC	45	-2945, CISNE 2.	
15:34:22		45	PC	-ADELANTE.	
		45	PC	-ADELANTE PARA EL 45, ENCIMA DE BEJUCAL.	ADELANTE. ADELANTE, RUMBO A BEJUCAL.
15:34:25	15:36:08	PC	45	-2945 VAMOS A PONER CURSO AL NORTE DE LA HABANA.	EH...NORTE...NORTE DE LA HABANA, VAMOS PARA EL NORTE DE LA HABANA.
15:34:33	15:36:10	45	PC	-ENTERADO, AUTORIZAME A ATRAVESAR LA HABANA.	ENTERADO, ME AUTORIZA A ATRAVESAR LA HABANA?

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:34:36	15:36:12	PC	45	-NEGATIVO, ATRAVESAR LA HABANA NO, POR EL ESTE DE LA HABANA, VAMOS A PASAR POR EL ESTE DE HABANA, ALTURA 200 M Y DESPUÉS TREPANDO. DESPUÉS DE LA COSTA ALTURA MIL.	NEGATIVO, ATRAVESAR LA HABANA, NO. POR EL ESTE DE LA HABANA.
		72			METROS Y DESPUÉS TREPAR...DESPUÉS DE LA COSTA TREPAR A ALTURA 1.000.
15:34:48	15:36:27	45	PC	-45.	45.
15:34:55	15:36:27	08	DV	-08 EN EL TERCERO, TREN, FLAPS, PRESIÓN NORMAL.	2003 FLAPS EN ...
15:34:59		DV	08	-EL VIENTO SE MANTIENE EN CALMA.	
15:35:02	15:36:33	08	DV	-08.	08.
15:35:05		22	PC	-CISNE-2, 22.	
15:35:08	15:36:40	PC	22	-ADELANTE.	ADELANTE.
15:35:09	15:36:42	22	PC	-EL 22 EN EL AIRE.	EN EL AIRE.
15:35:11	15:36:43	PC	22	-CORRECTO.	CORRECTO.
15:35:14		13	DV	-ANTONIO, EL 13 PASADO EL CUARTO, ROMPIENDO AL TERCERO.	PASAR EL CUARTO CON ...
15:35:17		DV	13	-CONTINUÉ.	
15:35:24	15:36:52	PC	45	-2945, ME COPIO?	ME COPIO?
15:35:26		45	PC	-COPIE, AL ESTE DE LA HABANA.	COPIE AL ESTE DE LA HABANA.
15:35:28	15:36:58	PC	45	-ESO ES CORRECTO, AL NORTE DE LA HABANA, HABAME CONTACTO CON EL 2972, A VER SI ESTA ENCIMA DEL OBJETIVO.	ESO ES CORRECTO, AL NORTE DE LA HABANA. HAZME CONTACTO CON EL 2972 A VER SI ELLOS ESTÁN ENCIMA DEL OBJETIVO.
15:35:35		45	PC	-ENTERADO.	ENTERADO.
15:35:36	15:37:04	45	72	-72, 45.	
15:35:37	15:37:06	BSR	45	-ADELANTE.	ADELANTE.
15:35:38	15:37:08	45	BSR	-YA TIENES EL OBJETIVO?	YA TIENE EL OBJETIVO?
15:35:40		BSR	45	-NEGATIVO.	NEGATIVO, ESTOY A UNOS 5 KILÓMETROS, A UNOS 3 KILÓMETROS DEL BARCO DE TRANSPORTE BLANCO CON RUMBO 330 AL MOMENTO.

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15:35:41		45	BSR	ENTERADO.	ENTERADO. ESTA APROXIMÁNDOSE AL BARCO DE TRANSPORTE AHORA.
			45		HAY UN BARCO MAS CHIQUITO EN ESA ZONA, DÍSELO QUE ES EL DE ...
		45	72		CORRECTO, AL SUR DEL BARCO GRANDE HAY UNO MAS CHIQUITO DE COLOR CARMELITA.
			45		ES AHI DONDE ESTÁN, AHI DONDE ESTÁN, AHI DONDE CAYO LA PRIMERA AHI ES DONDE ESTA EL BARCO.
		--	--		SOLICITANDO.
15:35:42		DV	--	DEMEN UN CHANCE PARA ATERRIZAR LOS CAZAS, DEMEN UN CHANCE.	
15:35:47		08	DV	EN POSICIÓN DE FLAPS.	
15:35:48		DV	08	CONTINUÉ.	CONTINUÉ.
15:35:57		22	PC	EL 22, ME DIRIJO AL NORTE DE CELIMAR.	ENTENDIÓ? ME DIO EL PARTE.
15:36:20	15:38:10	22	45	ALTURA 45?	ALTURA?
15:36:21		DV	08	ATERRICE 08.	
15:36:23	15:38:16	08	DV	08 COMPLETO.	
		45	PC	45 EN ALTURA 300.	
	15:38:19	22	45	TE COPIE 300.	ME COPIO 300.
	15:38:20	45	22	CORRECTO 300.	CORRECTO, 300.
15:36:33	15:38:22	22	45	OK MANTENGO 1000.	OK, MANTENGO 1,000.
15:36:35	15:38:23	45	22	ENTERADO.	ENTERADO.
15:36:40	15:38:29	PC	45	2945 CISNE 2.	¡CLS!
15:36:43		45	2	2945.	2945.
15:36:46		45	PC	ADELANTE.	ADELANTE.
15:36:47	15:38:34	PC	45	CORRECTO, MANTENGA ALTURA 1000, RUMBO 270, POR LA ORILLA DE LA COSTA, A LA DISTANCIA DE 10 KM. 15 KM DE LA COSTA, RUMBO A SANTA CRUZ.	CORRECTO, MANTENGA ALTURA 1,000 METROS, RUMBO 270 POR LA ORILLA DE LA COSTA A DISTANCIA 10 KILO. A 15 KILÓMETROS DE LA COSTA RUMBO A SANTA CRUZ.
15:36:58	15:38:44	45	PC	45.	

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15 37 01	15 38 47	22	PC	22, MANTENGO 1500	MANTENGO 1 500
15 37 06	15 38 52	13	DV	EL 13 ALA TREN FLAP PRESION NORMAL	LA PRESION NORMAL
15 37 09		DV	13	CALMA 13	ENTERADO
15 37 11	15 39 00	13	DV	13	13
15 37 36	15 39 21	PC	DV	22 Y 45, SE MANTIENEN A LA VISTA LOS DOS?	SE MANTIENEN A LA VISTA LOS DOS?
15 37 40	15 39 22	45	PC	EL 45 CON RUMBO 270?	CON RUMBO 270
15 37 43	15 39 25	PC	45	MANTIENE A LA VISTA EL NUMERO?	MANTIENE A LA VISTA EL NUMERO?
15 37 46	15 39 28	22		EL 22 MANTENGO 1500 AL NORTE DE	MANTENGO 1 500 METROS
15 37 50	15 39 30	PC	22	SE MANTIENEN A LA VISTA?	SE MANTIENEN A LA VISTA?
15 37 52	15 39 33	22	PC	NO, NEGATIVO, TODAVIA	NO, NEGATIVO, TODAVIA
15 37 56	15 39 37	PC	22	ME INFORMAN CUANDO ESTÉN FORMADOS	INFORMO QUE NO
15 38 00	15 39 41	45	PC	EL 45 RUMBO A SANTA CRUZ	CON RUMBO A SANTA CRUZ
15 38 06	15 39 46	13	DV	13 POSICIÓN DE FLAP COMPLETO	POSICION EN FLAPS COMPLETOS
15 38 09		DV	13	CONTINUÉ	
15 38 27	15 40 07	22	45	A LA VISTA, ME VOY A FORMAR	A LA VISTA
15 38 30		45	22	ENTERADO	ENTERADO
15 38 37		DV	13	ATERRICE 13	
15 38 39		13	DV	ENTERADO	
15 38 41		22	PC	EL 22 FORMADO CON EL 45	INFORMANDO QUE
15 38 46		DV	13 0 8	13 Y 08 RECUERDEN DESCONECTAR ARMAMENTO, DESCONECTAR ARMAMENTO 13 Y 08	
15 38 53	15 40 31	13	DV	DESCONECTADO	DESCONECTADO
15 38 54		08	DV	DESCONECTADO	
15 39 05		45	PC	45 A CINCO DE SANTA CRUZ	A 5 DE
		PC	45	RECIBIDO	
15 39 16	15 40 49	45	PC	INDICACIONES PARA EL 45	
		DV	13	DÉJAME EL PARACAIDAS AHI	
15 39 28	15 41 00	PC	45	2945 CISNE 2	

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15:39:31		45	PC	ADELANTE.	ADELANTE.
15:39:32		PC	45	MANTÉNGASE A ALTURA DOS, AL NORTE DE SANTA CRUZ 15 KM. VELOCIDAD ECONÓMICA.	MANTÉNGASE ALTURA 2 AL NORTE DE SANTA CRUZ A 15 KILÓMETROS.
15:39:37	15:41:10	PC	45	VELOCIDAD ECONÓMICA.	
15:39:38		45	PC	45.	45.
15:39:42	15:41:14	PC	45	45 PREGUNTELE AL 2972 SI EL ESTA SOBRE EL OBJETIVO.	PREGÚNTELE AL 2972 SI EL ESTA SOBRE EL OBJETIVO.
15:39:49	15:41:19	45	BSR	72, 45 ... SOBRE EL OBJETIVO?	SOBRE EL OBJETIVO?
		72	45		AFIRMATIVO, ESTOY A 1.500 METROS DEL OBJETIVO.
		45	72		500 METROS DEL OBJETIVO?
15:39:41		BSR	45	NO TENGO EL OBJETIVO TODAVÍA A LA VISTA.	OBJETIVO TODAVÍA A LA VISTA.
15:39:53	15:41:28	PC	45	ENTERADO. DIGALE QUE ME INFORME CUANDO ESTE SOBRE EL OBJETIVO YA.	ENTERADO, DILE QUE TE INFORME CUANDO ESTE SOBRE EL OBJETIVO YA.
15:39:57	15:41:30	45	BSR	ME INFORME CUANDO ESTE SOBRE EL OBJETIVO.	ME INFORMA CUANDO ESTE SOBRE EL OBJETIVO.
		72	45		Y CUAL ES LA POSICIÓN DEL OBJETIVO, DIGAME.
15:40:01		22	45	DAME POSICION DEL OBJETIVO, YA ME FORME.	
15:40:08	15:41:40	22	45	A TU DERECHA.	A SU DERECHA.
15:40:11	15:41:42	45	22	A LA VISTA.	
15:40:17	15:41:49	PC	45	45 POSICIÓN?	POSICIÓN?
15:40:19	15:41:50	45	PC	AL NORTE DE SANTA CRUZ 5 KM.	AL NORTE DE SANTA CRUZ, 5 KILÓMETROS.
15:40:27	15:42:02	PC	45	AL NORTE DE SANTA CRUZ, CORRECTO. MANTENGASE.	AL NORTE DE SANTA CRUZ, CORRECTO. MANTENGASE. ALTURA 2?
15:40:32		PC	45	ALTURA DOS?	
15:40:33	15:42:04	45	PC	CORRECTO ALTURA DOS.	CORRECTO, ALTURA 2.
15:40:35		PC	45	2945 ...CISNE 2.	
15:40:37		45	PC	ADELANTE.	ADELANTE.
15:40:38	15:42:13	PC	45	POR LA DERECHA [IZQUIERDA] PONGA CURSO 360...360. VUELE 3 MIN...3 MIN...3 MIN CON RUMBO 360.	POR LA IZQUIERDA POR CURSO 360, PONLE 3 MINUTOS EN CURSO 360.

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15:40:49	15:42:18	45	PC	-COPIE, 360 3 MIN	COPIADO 360 EN 3 MINUTOS.
	15:42:36	--	--		NO TE
		CIS2	2945		PREGUNTELE AL 2972 EL OBJETIVO
		45	72		EL OBJETIVO QUE ES?
		72	45		TENEMOS EL BARCO A LA VISTA
		45	72		EL BARCO, PERO EL CHIQUITO O EL GRANDE?
		72	45		EL BARCO GRANDE, UN BARCO GRANDE
		45	72		ENTERADO AHORA USTEDES TIENEN A LA VISTA EL BARCO GRANDE
		72	45		ES UN TRANSPORTE
	15:43:13	72	45		ES UN BARCO DE TRANSPORTE ESTAN CERCA
15:41:08		45	22	-PONTE CÓMODO...PONTE CÓMODO PARA QUE LE BUSQUES	
15:41:25	15:43:40	PC	45	-[EHH...] FÍJATE 45, DESPUÉS DE VOLAR 3 MIN VAMOS A HACER UN PATRÓN AHI POR LA DERECHA [IZQUIERDA], AHI POR LA DERECHA	DESPUÉS DE ... A LOS 30 MINUTOS PARA QUE HAGAS UN PATRÓN AHI POR LA IZQUIERDA POR LA DERECHA
15:41:33	15:43:50	45	PC	-45	45
15:41:44		PC	45	-45...CISNE-8	
15:41:45	15:43:55	45	PC	-ALTO Y CLARO, ADELANTE	ALTO Y CLARO, ADELANTE
15:41:48		PC	45	-CORRECTO, AVIONETAS 10 GRADOS A LA IZQUIERDA DISTANCIA 20 KM	DISTANCIA
15:41:52	15:44:08	45	PC	-COPIADO, 10 GRADOS A LA IZQUIERDA DISTANCIA 20	COPIADO 10 GRADOS A LA IZQUIERDA, DISTANCIA 20.
15:41:55	15:44:10	PC	45	-EN ALTURA 2600	
15:41:57		45	PC	-ENTERADO, ALTURA 2600	ENTERADO ALTURA 1,600
15:42:18	15:44:20	PC	45	-OBJETIVO 10 GRADOS UNOS 5 GRADOS A LA IZQUIERDA DISTANCIA 12 KM.	OBJETIVO 10 GRADOS A SU IZQUIERDA 5 GRADOS A SU IZQUIERDA DISTANCIA 12 KILÓMETROS.
15:42:24	15:44:27	45	PC	-45	
15:42:29	15:44:32	PC	BSR	-2872 CISNE 2	

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	15:44:54	PC	45	.45 RECONOZCA AL OBJETIVO...A LAS 12...8.	RECONOZCA EL OBJETIVO.
15:42:59	15:45:00	45	PC	.NO LO TENGO A LA VISTA...DEME POSICIÓN.	ENTERADO, NO LO TENGO A LA VISTA TODAVÍA.
	15:45:02	45	CISNE		NO LO TENGO A LA VISTA, DAME POSICIÓN.
15:43:09	15:45:10	PC	45	.NO LO TIENES POR RADAR?	NO LO TIENE POR RADAR.
15:43:11	15:45:13	22	PC	.NEGATIVO, ESTOY BUSCANDO.	NEGATIVO, ESTOY BUSCANDO.
	15:45:16	CISN2	45		IDENTIFIQUE EL OBJETIVO.
	15:45:18	45	CIS2		NO LO TENGO, DAME POSICIÓN.
	15:45:21		CIS8		DESPACIO, MIRA QUE TODAVÍA NO LO TIENE A LA VISTA.
15:43:13	15:45:25	22	PC	.OK, TENGO UN OBJETIVO LIGERAMENTE A LA DERECHA.	OK, YO TENGO OBJETIVO LIGERAMENTE A LA DERECHA.
15:43:26	15:45:28	PC	22	.EL OBJETIVO LIGERAMENTE A LA DERECHA DISTANCIA 4 KM.	EL OBJETIVO 5 GRADOS A SU DERECHA DISTANCIA 4 KILÓMETROS.
15:43:33	15:45:32	22	PC	.AHORA TENGO UNO A 8.	
15:43:36	15:45:36	PC	45	.MANTIENE EL OBJETIVO A LA VISTA 45?	MANTIENE EL OBJETIVO A LA VISTA?
15:43:41	15:45:41	--	--	.45.	
		18	PC	.TODAVÍA, ESPÉRATE. (NOTA: SEGUNDO PILOTO QUE VUELA CON EL 45).	
15:43:48	15:45:46	--	--	.DEN DISTANCIA DEL 45 SOLAMENTE.	OBSERVE CONSTANTEMENTE LA DISTANCIA EL 45 SOLAMENTE.
	15:45:53	PC	45	.LO TIENE DEBAJO SUYO 45.	LO TIENE ENCIMA...ABAJO SUYO.
15:43:56	15:45:54	45	PC	.DEBAJO DE MI?	ABAJO MIÓ?
15:43:57	15:45:57	PC	45	.TRANQUE POR SU DERECHA PARA CURSO 180, PASO EL OBJETIVO.	TREPE POR SU DERECHA PARA CURSO 180, PASO EL OBJETIVO.
	15:45:58	22	45	.POR LA DERECHA, TRANCA.	
15:44:12	15:46:10	BSR	PC	.EL 13, ESTAMOS EN LA ZONA DE BUSQUEDA.	ESTAMOS EN LA ZONA DEL BUQUE YA.
15:44:18	15:46:11	PC	45	.45...CISNE 8.	
15:44:18	15:46:13	45	PC	.ADELANTE.	ADELANTE.
15:44:19	15:46:15	PC	45	.CORRECTO, CURSO 180...45.	CORRECTO, CURSO 180.
15:44:23	15:46:18	45	PC	.180?	ENTERADO, 180?

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15:44:25		PC	45	-CORRECTO, 180.	
15:44:33	15:46:30	45	PC	-180, EN ALTURA DOS.	CORRECTO, 180, ALTURA 2?
	15:46:39	PC	45	-CORRECTO.	CORRECTO.
15:44:48	15:46:40	PC	45	-EL OBJETIVO A LAS 12, DISTANCIA 4.	EL OBJETIVO A LAS 12 DISTANCIA 4.
15:44:53	15:46:48	45	PC-22	-45, A LAS 12, COPIADO, FORMADO?	A LAS 12, COPIADO.
15:44:57	15:46:54	45	PC	-DAME LA ALTURA DEL OBJETIVO, CHICO.	DAME LA ALTURA DES OBJETIVO, CHICO.
15:44:59	15:46:59	PC	45	-YO NO TENGO LA ALTURA EN ESTOS MOMENTOS.	NO TENGO ALTURA EN ESTOS MOMENTOS.
15:45:02		PC	45	-BUSCALO POR DEBAJO.	
15:45:03	15:46:56	22	45	-MIRA ARRIBA, A LA DERECHA, GUAL, NOS PAGA POR 90 GRADOS AHORA LO TIENES?	ARRIBA A LA DERECHA FIDEL, LO PASO POR 90, LO TIENES?
15:45:11		45	22	-ENTRALE TU, ENTRALE TU.	
15:45:12	15:47:07	22	45	-CORRECTO, TRANCO POR LA DERECHA.	
15:45:15	15:47:08	22	45	-GUAL GIRA POR LA DERECHA.	GIRA POR LA DERECHA, GIRA POR LA DERECHA, GIRA POR LA DERECHA.
15:45:20	15:47:10	22	45	-TRANCA.	
15:45:23	15:47:17	PC	45	-45, DIME CARACTERÍSTICAS DEL OBJETIVO.	DÍGAME SI USTED IDENTIFICA EL OBJETIVO.
15:45:26	15:47:18	45	PC	-CESSNA-337.	CESSNA 337.
15:45:28		PC	45	-45...CISNE-2, LO TIENES A LA VISTA?	
15:45:31	15:47:20	22	PC	ES UN CESSNA 337, ESTA ENTRANDO POR LA DERECHA.	ES UN CESSNA 337 ESTA GIRANDO PARA LA IZQUIERDA.
15:45:34		PC	22	-CORRECTO.	
15:45:35	15:47:27	22	45	-SIGUE GIRANDO POR LA DERECHA 45.	SIGUE GIRANDO POR LA DERECHA.
15:45:38		PC	45	-PARA DONDE ESTA GIRANDO AHORA?	DONDE ESTA GIRANDO AHORA?
15:45:41	15:47:33	22	PC	-CON RUMBO APROXIMADO 30 GRADOS.	CON RUMBO APROXIMADO A 30 GRADOS.
15:45:44	15:47:36	PC	45	-CON RUMBO 30, LE ESTA MANIOBRANDO A USTEDES.	MANIOBRANDO USTED?

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15:45:47		45	PC	-CORRECTO, MANIOBRANDO POR LA DERECHA... POR LA IZQUIERDA.	CORRECTO, MANIOBRO POR LA DERECHA... POR LA IZQUIERDA.
15:45:51		PC	45	-45 VAMOS A CHEQUEAR EL COLOR.	ME HACE FALTA IDENTIFICAR EL COLOR.
15:45:54	15:47:43	45	PC	-ES AZUL CLARITA.	ES AZUL CLARITA. CORRECTO.
15:45:56		PC	45	-DIME SI ES AZUL Y BLANCA?	
15:45:58		45	PC	-CORRECTO.	
15:45:59	15:47:49	PC	45	-AZUL CLARO?	ES AZUL CLARO?
15:46:01	15:47:50	45	PC	-SI, AZUL CLARO.	SI, AZUL CLARO.
15:46:02		PC	45	-AZUL CLARO Y BLANCO, NO?	USTED NO SABE...
15:46:05	15:47:54	45	PC	-EN PANTALLA CISNE-8?	Y NO LO TIENE EN PANTALLA CISNE 8?
15:46:07	15:47:55	45	22	-TU NO LA TIENES?	TU LO TIENES?
15:46:08	15:47:56	22	45	-NO, LA PERDIMOS, LA PASAMOS?	NO, YA PERDIDO, LO PASAMOS.
	15:48:00		45		SE LE PERDIÓ?
15:46:15		PC	45	-OYE, MIRA A VER SI PUEDES COPIAR LA MATRICULA AHI, 45.	
15:46:19	15:48:07	22	PC	-MANTENGA, CISNE 8 22	
		PC	22	-ADELANTE.	ADELANTE.
15:46:23		22	PC	-USTED LO TIENE EN PANTALLA AHI?	USTED NO LO TIENE EN PANTALLA?
15:46:25	15:48:09	PC	22	-CORRECTO.	CORRECTO.
15:46:25	15:48:12	22	PC	-DENOS INDICACIONES.	DEME LA SITUACIÓN AHI.
15:46:27	15:48:18	PC	22	-EL OBJETIVO 10 GRADOS A TU DERECHA DISTANCIA 7 KM COMIENCE A GIRAR POR LA DERECHA PARA CURSO 180.	EL OBJETIVO 10 GRADOS A SU DERECHA DISTANCIA 7 KILOMETROS.
	15:48:24	CIS8	45		COMIENCE A GIRAR POR LA DERECHA PARA CURSO 180.
15:46:35	15:48:18			-OK.	
15:46:39	15:48:22	45	PC	-ESTA POR ARRIBA O POR ABAJO?	
15:46:41	15:48:26	22	45	-ESTABA CASI A NIVEL CON NOSOTROS.	180. ESTABA A DISTANCIA A NIVEL DE NOSOTROS.
15:46:49	15:48:29	PC	45	-LO TIENE 5 GRADOS A TU IZQUIERDA. 45.	LO TIENE A 5 GRADOS A SU IZQUIERDA.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:46:54	15:48:36	45	PC	ENTERADO	ENTERADO.
15:46:58	15:48:40	PC	45	A LAS 12	A LAS 12
15:47:02	15:48:44	45	PC	COPIE A LAS 12	COPIE
15:47:04	15:48:50	22	PC	NO LO TENGO A LA VISTA	NO TENGO A LA VISTA
15:47:06		45	22	REPITE	DISTANCIA?
15:47:07	15:48:52	22	45	A LAS 12 DOS	A LAS 12. 2
15:47:09	15:48:53	PC	45	45 DIME LA MATRICULA	LO TENGO. DIME LA MATRICULA
15:47:12	15:48:56	45	PC	ESPERATE. DEJAME ENCONTRARLA PRIMERO	ESPERATE. DEJAME ENCONTRARLO PRIMERO
15:47:14		22	PC	NO LO TENEMOS AHORA	NO LO TENGO AHORA. NO LO TENGO
15:47:17	15:48:57	PC	45	45 LE PASO POR ARRIBA AL OBJETIVO. LO ESTA DEJANDO ATRAS	LE PASO POR ARRIBA AL OBJETIVO. LO ESTA DEJANDO ATRAS
15:47:20	15:49:00	PC	45	BUSQUELO POR DEBAJO DE USTED. DENTRO DEL RADIO DE GIRO.	
15:47:41	15:49:19	PC	45	COPIO 45?	COPIO?
15:47:42		45	PC	QUE COSA?	REPITA
15:47:44	15:49:27	PC	45	BUSQUELO DENTRO DEL RADIO DE GIRO. GIRANDO DEBAJO DE USTED	BUSQUELO EN EL PRIMER GIRO. GIRANDO POR DEBAJO DE USTED
15:47:48		45	PC	ENTERADO	ENTERADO
15:47:52	15:49:30	PC	45	45. CISNE 2. EL OBJETIVO 10 GRADOS A SU IZQUIERDA DISTANCIA 12 KM	EL OBJETIVO 10 GRADOS A SU IZQUIERDA DISTANCIA 12 KILOMETROS.
15:47:58	15:49:35	45	PC	COPIADO RUMBO 360.	COPIADO. RUMBO 360.
15:48:00	15:49:38	PC	45	TERMINE EN CURSO 330	TERMINE EN CURSO 330
15:48:03	15:49:38	45	PC	330	330
15:48:07	15:49:46	22	PC	VOY A DISMINUIR UN POQUITO DE VELOCIDAD PARA VER SI LO PUEDO COGER BIEN	VOY A PERDER UN POQUITO DE VELOCIDAD A VER SI LO PUEDO COGER YA
15:48:09	15:49:42	PC	45	TERMINA EN RUMBO 270 45	TERMINE EN 270 45
15:48:12		PC	45	45 DAME EL UNO	ENTERADO. 270
15:48:14	15:49:49	PC	45	EL OBJETIVO EN 270 A LA VISTA A LAS 12 A LAS 12. SEIS	EL OBJETIVO 270 A LA VISTA A LAS 12 6
15:48:23	15:50:00	45	PC	45	45
	15:50:09	C8	45		TIENE A LA VISTA EL OBJETIVO?

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
	15:50:19	45	C8		TENGO ABAJO Y ALANTE.
		C8	45		TRABAJE.
	15:50:20	45	22		QUE TIPO?
15:48:30		43	DV	EL 43 EN POSICIÓN.	
		PC	45	45...CISNE 8.	
15:48:44		22	PC	DÉJALO QUE TRABAJE, ESPÉRATE.	
15:48:47	15:50:22	PC	45	YA LO TIENEN?	LO TIENE?
	15:50:26	22	45	SI, LO TENGO. GIRA A TU DERECHA.	SI, YO TENGO.
	15:50:28	--	--	..... 45, A LA IZQUIERDA.	GIRE POR LA IZQUIERDA. 30 POR LA IZQUIERDA. QUE ESTA HACIENDO POR LA IZQUIERDA, SIGA.
15:49:07	15:50:38	22	45	ESTA GIRANDO POR LA IZQUIERDA.	EL ESTA GIRANDO POR LA IZQUIERDA.
15:49:13	15:50:45	22	45	AHI, QUITA BANQUED.	AHI, QUITA BANQUEO.
15:49:19		PC	45	2945 A VER SI LE PUEDES VER LA MATRICULA AHI.	
15:49:22		22	PC	ESPÉRATE. TENEMOS QUE ACERCARNOS PRIMERO. ESTA MANIOBRANDO.	ESPERADO, ES QUE CUANDO ACERCARLO ASÍ. BUENO ESTA MANIOBRANDO.
15:49:25		18	22	TU NO LO TIENES? TU NO LO TIENES?	TU LO TIENES?
15:49:26		22	18	NO. YA NO.	NO, Y TU? DEJAR INTERCEPTARLO PRIMERO, PERO ESTA MANIOBRANDO BUENO ASÍ.
15:49:30		PC	18	OYE 18, A VER SI TU LE VES LA MATRICULA.	
15:49:35		22	PC	DÉJANOS ACERCARNOS PRIMERO. ESTA MANIOBRANDO. ESO NO ES ASI.	
15:49:43		18	PC	DENOS LA POSICION.	DAME LA POSICIÓN.
15:49:47		22	PC	CISNE 8 22.	
15:49:49	15:51:16	PC	22	ADELANTE 22.	ADELANTE.
15:49:50		22	PC	DANOS ALGO, DEME INDICACIONES.	DANDO, ANDO, DÍGAME INDICACIONES.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
15:49:52	15:51:19	PC	22	-CORRECTO, EL OBJETIVO LO TIENE DETRAS SUYO, POR SU IZQUIERDA CURSO 180.	CORRECTO, EL OBJETIVO LO TIENE DETRAS SUYO, POR SU IZQUIERDA, CURSO 180. NO ESTA
15:49:58		22	PC	-OK.	
15:50:02		22	45	-DISMINUYE UN POCO 45, VELOCIDAD, PARA PODER TRANCAR CON ELLOS, SINO...	DISMINUYE UN POCO LA VELOCIDAD PORQUE... QUE SE ESTA CON ELLOS, NO?
15:50:08	15:51:30	PC	45	-45, CUANTOS AVIONES TIENEN USTEDES, UNO O DOS?	CUANTOS OBJETIVOS TIENE USTED? UNO O DOS?
15:50:11	15:51:33	45	PC	-SOLAMENTE UNO.	SOLAMENTE UNO.
15:50:12	15:51:37	PC	45	-CORRECTO, USTED ME INFORMO QUE ERA AZUL EL COLOR?	CORRECTO, TIPO DE MAQUINA, AZUL, COLOR?
15:50:15	15:51:39	45	PC	-AZUL CLARO Y BLANCO... CESSNA 337.	AZUL CLARO Y BLANCO.
		22	C8		INFORME.
		C2	45		CESSNA 337.
15:50:28	15:51:52	C2	45	-DIME 45, MATRICULA, DIME, DIME, ESTOY ESPERANDO POR TI.	DIME LA MATRICULA.
15:50:32		PC	45	-OBJETIVO A LA IZQUIERDA DISTANCIA 4.	EL OBJETIVO A LA IZQUIERDA, DISTANCIA CUATRO.
	15:52:00	45	PC		ESTE A LA VISTA, LA ALTURA AL MOMENTO.
15:50:35		45	PC	-45.	
15:50:42		18	22	-A QUE ALTURA EL OBJETIVO?	A QUE ALTURA EL OBJETIVO?
15:50:44		22	18	-MAS O MENOS A ALTURA DOS MIL, POR AHI ESTABA.	MAS O MENOS ALTURA 2000 METROS POR AHI.
15:50:49		PC	45	-DE FRENTE AL OBJETIVO.	EN FRENTE DEL OBJETIVO, LO TIENE CINCO GRADOS A SU IZQUIERDA Y DE ALANTE.
15:50:52	15:52:10	PC	45	-LO TIENES 5 GRADOS A LA IZQUIERDA Y DELANTE.	
15:50:55		45	PC	-45.	
15:51:10		45	PC	-SIGUE DELANTE?	
15:51:16		22	PC	-SIGUE DANDO INDICACIONES...CISNE.	SIGUE LAS INDICACIONES, SIGUE.
15:51:21		22	PC	-CISNE 8...22.	INDICACIONES?
15:51:25	15:52:43	22	45	-LO TIENES?	LO TIENES?
15:51:28	15:52:47	22	45	-...VOY A DARLE UN PASE POR AHI.	NO, VOY A GIRAR Y PASAR POR AHI.

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15:51:36	15:52:54	PC	45	-45 ...CISNE-8.	
15:51:38		45	PC	-ADELANTE.	
15:51:39	15:52:57	PC	45	-VES LA MATRICULA?	VEA LA MATRICULA?
15:51:42	15:53:01	22	PC	-DENOS INDICACIONES NO HEMOS PODIDO LLEGARLE TODAVÍA.	SIGUE LAS INDICACIONES MUY ALTO AHI ALLÁ.
15:51:44	15:53:02	PC	22	-CORRECTO.	CORRECTO.
15:51:52	15:53:10	18	PC	-DENOS INDICACIONES, INDICACIONES.	MAS INDICACIONES, INDICACIONES.
15:51:58	15:53:14	PC	45	-45 SUSPENDA MISIÓN, VAMOS A REGRESAR A CASA.	SUSPENDA LA MISIÓN.
15:52:01	15:53:16	45	PC	-COPIADO, SUSPENDER MISIÓN.	ENTERADO.
15:52:03	15:53:19	PC	45	-2945...CISNE-2.	
15:52:07	15:53:21	45	PC	-ENTERADO.	
15:52:07	15:53:30	PC	45	-2945...CISNE-2.	
15:52:18	15:53:33	45	PC	-ALTA Y CLARO, ADELANTE.	ALTO Y CLARO, ADELANTE.
15:52:21		PC	45	-CORRECTO, MIRA, MANTIENE ALTURA 3000, DEJANDO 15 KM. LA COSTA A LA IZQUIERDA PARA ENTRAR POR EL MARIEL, DIME EL UNO.	
		C2	45		DISTANCIA.
		45	C2	**END OF CUBAN TRANSCRIPT.**	LO TIENE .. CISNE 8.
		C8	45		EL OBJETIVO TIENE A SU IZQUIERDA, DISTANCIA CUATRO KILÓMETROS DE USTED.
		45	C8		DIME.
		C8	45		PARALELO, CONTRARIO, RUMBO ATRAS DE USTED. CUAL ES TU UNO?
					A LA IZQUIERDA.
		45	C8		EL UNO 23.
		C2	45		XW.
		45	76		QUE ES LO QUE HAY?
		45	76		
		45	72		
		45	72		QUE ES LO QUE HAY?

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		72	45		NEGATIVO, ESTOY EN LA ZONA PERO NO SE VEO NADA. BARCO MERCANTE VA ANDO CON VELOCIDAD PARA ALLÁ EN RUMBO 90. NOSOTROS ESTAMOS AQUÍ A EL PETROLERO CON RUMBO 270 HACIENDO UN PERO NADA
		C8	45		
		45	C8		DICE QUE NO TIENE NADA.
		C8	45		CORRECTO. ESTA MANIOBRANDO EL OBJETIVO ATRÁS. VAMOS A REGRESAR AL CAMPO. POR SU IZQUIERDA . CURSO 210. DAME EL UNO.
		45	C8		EL UNO 23
		C8	2945		USTED MANTIENE CURSO 270. 15 KILÓMETROS DELANTE DE LA COSTA A LA IZQUIERDA. ALTURA 2000 METROS.
		45	C8		CURSO 270.
		C8	2945		LLAMA A 2972
		72	C8		ADELANTE
		C8	72		DÍGAME SI ESTA SOBRE EL OBJETIVO?
		45	C8		DICE QUE NO TIENEN EL OBJETIVO, QUE NO VEAN NADA AHI. ME COPIO?
		C8	45		CORRECTO, LE COPIE. DICE QUE MANTIENE LA ZONA DE BÚSQUEDA?
		45	C8		CORRECTO. EL ESTA EN LA ZONA DE BUSQUEDA.
		45	22		A LA VISTA
		45	72		NO VEA NADA?
		45	72		NADA?
		72	45		NEGATIVO, ESTOY ATRÁS DEL BARCO
		45	72		ESTA AQUÍ LA ZONA?
		45	22		BUENO, VAMOS REGRESANDO.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		45	72		EN QUE ZONA TENGA USTED AHI?
		72	45		AL NORTE DE ESPERON.
		45	C8		NO, ME MANTENGO CONJUNTO CON EL 22 Y EL 260. ENTERADO PONIENDO RUMBO 270. QUE AQUÍ EL UNICO QUE TENGO AHI ES UN BARCO AHORA.
		45	72		EL CISNE 2 LE LLAMA.
		72	C2		ADELANTE.
		45	C2		EL 72 ESTA RESPONDIENDO.
		45	72		QUE HAY NADA?
		72	45		NEGATIVO, ESTOY AHORA ESTA QUI TU QUE VIENE CON RUMBO A LA COSTA.
		45	72		ENTERADO. A QUE DISTANCIA DE LA COSTA TU ESTAS EN ESTOS MOMENTOS.
		72	45		UNOS SIETE KILÓMETROS O OCHO KILÓMETROS.
		C2	45		Y NO TIENE NADA EN LA UBICACIÓN
		45	C2		ES CORRECTO, TIENEN A LA VISTA GRANDE, LO QUE ESTA.
		45	C2		ESTA RECONOCIENDO UN BARQUITO DE LA MARINA, ESA GENTE.
		22	C2		ES UN BARCO DE PASAJEROS, VERDAD?
		22	45		A LA DERECHA NOSOTROS.
		45	C8		ENTERADO. TENGO A LA VISA UN BARCO GRANDE AQUÍ, A MI DERECHA.
		22	45		ES UN BARCO DE PASAJEROS.
		45	C8		SALIENDO EN RUMBO 210.
		C2	2945		OYE LLAMA A 2972 Y DILE QUE PASAR AL CANAL CUATRO A VER SI HACER CONTACTO CON LA GENTE DE LA MARINA.
		45	72		

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		22	45		HAY OTRO EQUIPO CHIQUITO AQUÍ.
		22	C2		
		45	C2		A LA VISTA UN BARCO PEQUEÑO A MI IZQUIERDA 90 GRADOS.
		72	45		NEGATIVO CONTACTO CON LA MARINA.
		45	C2		NEGATIVO CONTACTO CON LA MARINA.
		22	C2		AUTORICEME HACER UN RECONOCIMIENTO AQUÍ UN BARQUITO QUE LO HAY A LA DERECHA.
		72	C8		OYE, HAY UN BARQUITO AHI AZUL QUE VA CON RUMBO 110 GRADOS. NOSOTROS ESTAMOS CON MAS ATRAS A VER SI UNO VER ALGO.
		22	C2		
		22	45		ES UN BOLERO AHI.
		45	22		SI, A LA VISTA.
		C2	1222		
		22	C2		AUTORICE HACER UN RECONOCIMIENTO DEL UN BARCO QUE TENGO AQUÍ.
		C2	22		ALTURA 3000?
		22	C2		ALTURA 3000 METROS.
		C2	22		CORRECTO, AUTORIZADO.
		22	45		OK, YO VOY A HACER EL RECONOCIMIENTO AHORA.
		45	22		REPITA.
		22	45		DESCENDIENDO.
		45	22		ENTERADO.
		45	C2		QUE ALTURA MANTIENE? COPIADO.
		C2	45		EL UNO?
		45	C2		EL UNO 19.
		45	22		QUE LO TIENES?

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		22	45		OK, ESO ES UN PEQUEÑO BOLERO, PERO NO, NO LO TIENE NADA POR ARRIBA.
		45	22		QUE TIENES?
		22	45		NO, QUE EL BOLERO NO TIENE NADA ARRIBA, ESTA PASIVA.
		C2	45		VAMOS A HACER UNA EXPLORACIÓN MAS AL NORTE DE MARIEL.
		45	C2		NORTE DE MARIEL.
		C2	2945		DÍGAME, HAGA CONTACTO CON 2972 Y DILE SI, A VER SI EN ESA ZONA UNA LANCHA APAIRO NUESTRO?
		45	72		TIENE ALGUNA LANCHA NUESTRA DE LA MARINA?
		45	72		SI TU TIENES UNA LANCHA NUESTRA DE LA MARINA A LA VISTA AHI.
		72	45		NEGATIVO.
		C2	45		LE COPIE QUE ES NEGATIVO?
		45	C2		NEGATIVO.
		C2	2945		VAMOS A APROXIMARNOS DIRECTO AL NORTE DE MARIEL Y MANTENGA ALTURA 3200 POR ENCIMA DEL HELICÓPTERO Y ME INFORMA CUANDO LO TENGA EL UNO 12. VELOCIDAD ECONÓMICA AHI.
		C2	45		LOS DOS SE MANTIENE A LA VISTA?
		45	C2		CORRECTO, AUTORICEME ALTURA 2000.
		C2	45		ENTERADO ALTURA 2000.
		C2	45		TU MANTIENE A LA VISTA?
		45	C2		COPIASTE, ALTURA 2000.
		C2	45		OBJETIVO.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		22	C2		NEGATIVO, HACIENDO RECONOCIMIENTO AQUÍ AL BARCO. EN LA REGIÓN DONDE ESTOY YO, HAY UN BARCO PARECE QUE ES UN PESQUERO, ES BLANCO Y NARANJA Y VA CON RUMBO AL NORTE, ESTA APROXIMADAMENTE UNOS 25 DE LA COSTA.
		C2	22		CUAL ES TU POSICIÓN?
		22	C2		25 KILÓMETROS AL NORTE DE HABANA
		72	C2		NOSOTROS ESTAMOS AL NORTE DE
		45	22		MANTENGA ALTURA.
		22	45		OK, YO ESTOY AL NORTE DE HABANA 25 KILÓMETROS. ESTOY EN ALTURA 2500.
		72	22		TIENE EL PETROLERO ESTA
		22	72		NEGATIVO, NO. LO QUE TENGO ES OTRO EQUIPO.
		45	C2		ADELANTE. EL UNO 17.
		22	72		OK, TENGO EL PETROLERO YA
		22	45		ENTERADO. DESCENDIENDO A ALTURA 2000.
		72	22		HAY OTRO PETROLERO CON RUMBO 270
		C2	45		PEGAMOS A LA COSTA, TREPANDO A ALTURA 4000 METROS.
		45	22		
		C2	45		USTED PRÓXIMO DE LA COSTA, PASA POR ALTURA 2000.
		45	C2		CLARO.
		C2	2945		DÍGAME SU POSICIÓN.
		45	C2		CUATRO DE MARIEL.
		C2	45		SOBRE MARIEL?
		45	C2		A CUATRO DE MARIEL.
		C2	45		PRÓXIMO MARIEL, QUE ESTA EN ALTURA 2000, EL UNO?

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		45	C2		EL UNO.
		72	45		
		C2	45		PREGUNTE AL 2972 POSICIÓN.
		45	72		POSICIÓN?
		72	45		OESTE DEL PETROLERO, NOROESTE DE PETROLERO, 100 METROS.
		45	C2		SOBRE UN BARCO PETROLERO.
		C2	45		AFIRMATIVO QUE VIENE CON CURSO 270, QUE ESTA AL NORTE DEL ESPERON.
		45	C2		ENTERADO, AL NORTE DES ESPERON UNAS CUANTOS KILÓMETROS.
		72	45		ESTAMOS UNOS 15 KILÓMETROS DEL ESPERON, OYE TRATAR HACERSE EL 08 INFORMAR HASTA QUE LUGAR.
		45	72		OYE EL 08 NO ESTA AQUÍ, ESTA ALLÁ.
		45	C2		EL 72 ESTA A UNOS 10 KILÓMETROS AL NORTE DE ESPERON.
		C2	45		ALTURA?
		45	C2		ALTURA 1500 TREPANDO PARA 2000.
		C2	45		YA VIENE HASTA EL CAMPO YA.
		45	C2		CORRECTO.
		C2	45		EL UNO?
		45	C2		EL UNO 13.
		C2	45		15?
		45	C2		13.
		72	45		ADELANTE.
		22	72		NO ES USTED, ES EL UNO.
		22	72		
		45	22		REGRESA.
		22	45		EL UNO 12.9.
		22	C2		SOBRE EL PETROLERO AHORA.

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		72	C2		AL NORTE DEL PETROLERO, TRES KILÓMETROS.
		22	72		QUE ESTOY SOBRE EL PETROLERO EN ESTOS MOMENTOS.
		72	C2		DESCENDIÓ PARA CINCO METROS
		C2	2972		POSICIÓN.
		22	C2		ESTAMOS AL NORTE DE CAYO SALADO UNOS 15 KILÓMETROS. 1500 METROS. A LA VISTA, HAY DOS LANCHAS DE GUARDA FRONTERA EN ESTOS MOMENTOS.
		45	C2		EN EL CUARTO.
		22	C2		ES CORRECTO PERO ESTÁN LEJOS ELLOS.
		C2	22		VAMOS A...
		22	C2		OK, ME DIRIJO AL MARIEL.
		C2	45		ROMPA.
		45	C2		AUTORICEME
		C2	45		CHEQUEE SU ...
		A	22		
		22	A		ADELANTE. ADELANTE.
		A	22		POSICIÓN?
		22	A		EN ESTOS MOMENTOS EN MARIEL. REGRESANDO.
		A	22		CORRECTO. CHEQUEE LA RADIO
		22	A		AL 22?
		A	22		ALTO Y CLARO.
		22	A		OK, COPIADO.
		A	22		DAME SU ALTURA.
		22	A		1500.
		A	22		CORRECTO. PARA SU CONOCIMIENTO, TENGO EL PRÓXIMO TERCERO AL 45.
		22	A		COPIADO.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		A	2972		POSICIÓN?
		22	A		EL ESTA NORTE DEL PETROLERO HAY ALGÚN INDICACIÓN POR 72?
		72	22		REPITA?
		22	72		NO, CON CISNE 2
		2945	A		TERCERO, ALAS, TREN Y FLAPS, AIRE NORMAL.
		A	45		VIENTO CALMA.
		C2	1222		
		22	C2		ADELANTE.
		C2	22		REGRESANDO, REGRESA AL CAMPO.
		22	C2		CORRECTO, ESTOY REGRESANDO.
		C2	22		
		22	C2		ADELANTE.
		C2	22		POSICIÓN?
		22	C2		PASANDO AL COTILLERA
		C2	22		PASANDO?
		22	C2		ENTRE GUANAJAY Y ARTEMISA.
		C2	22		AH, GUANAJAY Y ARTEMISA.
		22	C2		CORRECTO.
		45	C2		POSICIÓN DE FLAPS ABAJO Y ASEGURADO.
		C2	45		CONTINUÉ.
		C2	2972		
		72	C2		ADELANTE.
		C2	72		DÍGAME EL UNO.
		72	C2		TENGO EL UNO 19.
		C2	72		TENGO AQUÍ EL UNO 19.
		72	C2		AFIRMATIVO.
		22	C2		EN EL CUARTO, 1200.

TIME (CUBAN TRANSCRIPT/RECORDING)	TIME (UNITED STATES RECORDING)	FROM	TO	TRANSMISSION (TEXT PROVIDED BY CUBA)	TRANSMISSION (TEXT PROVIDED BY THE UNITED STATES)
		C2	22		600...
		22	C2		VOY DIRECTO
		45	C2		FLAPS COMPLETOS
		C2	72		POSICIÓN?
		72	C2		AL NORTE MARIEL, UNOS SIETE KILÓMETROS AL NORTE MARIEL.
		C2	72		POSICIÓN EXACTAMENTE.
		72	C2		CINCO KILÓMETROS AL NORTE MARIEL. AL RUMBO 90.
		22	C2		TREN, FLAPS CUATRO VERDES
		C2	22		OK, VIENTO CALMA, CONTINUÉ.
		C2	72		REGRESAR AL CAMPO. ALTURA 200 METROS.
		72	C2		
		C2	45		
		A1	72		
		A1	2972		
		72	A1		ADELANTE
		A1	72		DAME SU POSICIÓN.
		72	A1		VAMOS AL MOMENTO NORTE BARACOA.
		A1	72		ENTERADO.
		72	A		60 GRADOS. AL FARO, 200.
		72	A		VERTICAL BARACOA. VERTICAL BARACOA.
		A	72		OK.
		72	A		VERTICAL AL NORTE DEL CAMPO.

D. TRANSCRIPTS OF CUBAN MILITARY RADIO COMMUNICATIONS TRANSLATED INTO ENGLISH

LEGEND	
SYMBOLS	**IDENTIFICATION**
2908	MIG-29UB FIRST PILOT (PAIR NO. 1)
1213	MIG-23 ML PILOT (PAIR NO. 1)
DV	TOWER CONTROL
2972	MI-17 CAPTAIN (SAR (SEARCH AND RESCUE BRIGADE) NO. 1)
	MI-17 COPILOT (SAR NO. 1)
13	MIG-23 UB FIRST PILOT (PAIR NO. 2)
2945	MIG-23 SECOND PILOT (PAIR NO. 2)
18	MIG-19 PILOT (PAIR NO. 2)
22	CONTROL CENTER NO. 2
CISNE-2	CONTROL CENTER NO. 8
CISNE-8	CONTROL CENTER
GC	MI-17 CAPTAIN (SAR NO. 2)
3014	FIGHTER PILOT
43	
NOTA: SOMETIMES THE MIG-29UB SECOND PILOT IDENTIFIES HIMSELF AS 08.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		08	PC	GIVE DIRECTIONS BECAUSE WHAT I HAVE IN SIGHT IS HAVANA.	
15:08:24		PC	08	DO YOU HAVE THE COAST IN SIGHT?	
15:08:27		08	PC	CORRECT.	
15:08:29		PC	08	WE ARE GOING TO PATROL BETWEEN HAVANA AND GUANABO.	
15:08:33		08	PC	REPEAT.	
15:08:34		PC	08	BETWEEN HAVANA AND GUANABO.	
15:08:37		08	PC	I COPY.	
15:08:53		13	PC	13 HEADING 270, NORTH OF HAVANA.	
15:08:59		08	13	YOU'R ALTITUDE?	
15:09:00		13	08	200.	
15:09:03		08	13	I COPY.	
15:09:39		PC	13	1213, CISNE-2.	
15:09:43		08	PC	THE CONTACT IS IN THE WATERS.	
15:09:45		08	PC	THE CONTACT IS...OF US.	
15:09:40	15:11:06	PC	08	NORTH?	TO THE NORTH?
15:09:49		PC	13	1213 CONNECT UVD.	
15:09:55		PC	13	1213 CONNECT UVD...CISNE-2.	
15:10:23		PC	13	WHAT IS YOU'R COURSE?	
15:10:28		PC	13	13, COU'RSE.	
	15:11:37	08	PC		ROGER, THAT THE TARGET IS NORTH OF BARACOA.
15:10:31	15:11:43	13	PC	COU'RSE 270.	TO A HEADING OF 270.
	15:11:45	13			THAT'S RIGHT...
15:10:33		PC	13	THAT IS CORRECT, WITH COURSE 270, THE CONTACT IS AT YOUR RIGHT, 40 KM AWAY.	
		PC	13	1213 CISNE-8.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:10:41		08	PC	1 COPY.	
	15:11:54				ROGER.
15:10:43	15:11:55	13	PC	13 CALLING CISNE-8.	CISNE-8 FOR 13.
		--	--	-....	
15:10:47	15:11:56	PC	13	CORRECT, ON YOUR RIGHT, COURSE 330, WE ARE GOING TO WORK AGAINST ONE CONTACT.	...HEADING OF 330, WE'RE GOING TO WORK AGAINST THE TARGET.
15:10:52	15:12:03	13	PC	330 ON THE LEFT.	330 TO THE LEFT.
15:10:54	15:12:04	PC	13	CORRECT.	RIGHT.
15:11:09	15:12:19	08	13	13, THERE IS A VERY BIG CONTACT THERE.	THERE IS A VERY LARGE VESSEL THERE.
15:11:12	15:12:21	13	08	YES, I SAW IT A WHILE AGO.	I JUST SAW IT.
15:11:31		08	PC	290.	
	15:12:39	PC	08	08, ACTIVATE RADAR.	TURN ON YOUR RADAR.
15:11:36		08	PC	NEGATIVE.	
	15:12:43	08	PC		CONNECTED.
15:11:43	15:12:51	PC	13	13, ACTIVATE RADAR. ALL COMPLETE.	CONNECT THE RADAR AND EVERYTHING.
15:11:46	15:12:53	13	PC	CONNECTED.	CONNECTED.
15:11:48	15:12:54	PC	13	SEARCH BELOW 13.	LOOK FOR IT BENEATH YOU.
		PC	13	SET COURSE 2...360.	
15:11:51	15:12:56	PC	13	... SEARCH BELOW YOU GUYS, IT IS BELOW .NORTH OF BARACOA SOME 30 KM	BENEATH
15:11:53		PC	13	1213 REPORT MAINTAINING.	
	15:13:04	13	PC	13	ON PARAMETERS.
15:12:00	15:13:05	PC	13	CORRECT, MAINTAIN COURSE 360.	MAINTAIN COURSE 330.
15:12:04	15:13:08	13	PC	MAINTAINING.	ON PARAMETERS.
15:12:06		PC	13	I COPY.	UNDERSTOOD.
15:12:13	15:13:17	PC	13	ALTITUDE 1213?	WHAT IS THE ALTITUDE?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:12:15	15:13:19	13	PC	200.	200.
15:12:16	15:13:20	PC	13	I COPY.	UNDERSTOOD.
15:12:22	15:13:25	08	PC	08 TO 1500.	AT 1500.
15:12:27	15:13:30	PC	08	THE CONTACT IS IN ALTITUDE 200-300 M.	THE TARGETS ARE AT AN ALTITUDE OF 200 TO 300 METERS.
15:12:31	15:13:33	08	PC	I COPY.	ROGER.
15:12:34	15:13:37	PC	08	08 SEARCH BELOW YOU.	LOOK FOR THEM BENEATH YOU.
15:12:41	15:13:43	PC	13	13 CLIMB UP TO ALTITUDE 1000.	CLIMB TO ALTITUDE 1000.
15:12:44	15:13:45	13	PC	ONE THOUSAND.	1000.
15:13:06	15:14:06	PC	13	1213 ...NORTH OF SANTA FE. DISTANCE 35 KM ...THERE IS THE CONTACT.	...5 KILOMETERS TO THE TARGET.
15:13:16	15:14:15	13	PC	I COPY, 13 IS AT ALTITUDE 1000.	ROGER, ALTITUDE 1000.
15:13:19		PC	--	...CISNE-8.	
15:13:21		08	13	13, 8 AT ALTITUDE 1500.	
		13	08	I COPY.	
	15:14:21	08			1500.
15:13:25	15:14:23	PC	13	START TO TURN RIGHT TO HEADING 30 DEGREES.	BEGIN TO TURN TO YOUR RIGHT TO A COURSE OF 30 DEGREES.
15:13:28		08	PC	08?	YOU MEAN 08?
	15:14:26	08			13.
15:13:29		PC	13	NO, 13, 1213 CISNE-8.	
15:13:32	15:14:30	13	PC	I COPY CISNE-8, 30 DEGREES ON THE RIGHT.	ROGER, 30 DEGREES TO THE RIGHT.
15:13:39	15:14:35	13	PC	CISNE-8, WHAT I HAVE DOWN HERE IS A LARGE SHIP.	I HAVE IT BELOW ME, IT'S A LARGE VESSEL.
15:13:44	15:14:40	PC	13	1213 HAS A CONTACT 10 DEGREES ON HIS LEFT, DISTANCE 12.	YOU HAVE A TARGET 10 DEGREES TO YOUR LEFT, AT A DISTANCE OF 12 KILOMETERS.
15:13:50	15:14:46	13	PC	NEGATIVE, WHAT I HAVE DOWN HERE IS A LARGE SHIP, ON THE LEFT.	NEGATIVE, IT IS A LARGE VESSEL THAT I HAVE HERE TO THE LEFT.
15:14:01	15:14:55	PC	13	KEEP SEARCHING 1213.	KEEP SEARCHING.
15:14:04	15:14:56	13	PC	I COPY.	ROGER.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:14:09	15:15:02	13	PC	13 TURNING LEFT 270.	TURNING LEFT, TO 270 DEGREES.
	15:15:11				WHAT I HAVE TO THE LEFT RIGHT NOW IS A LARGE PASSENGER SHIP.
15:14:30	15:15:26	PC	13	1213 CISNE-8.	1213 CISNE 8.
15:14:33	15:15:27	13	PC	CALLING CISNE-8.	GO AHEAD.
15:14:36	15:15:28	PC	13	UHH...YOU...THE CONTACT YOU ARE REPORTING IS IN FRONT OF YOU?	
15:14:40	15:15:37	13	PC	RIGHT NOW ON THE LEFT.	RIGHT NOW IT'S TO THE LEFT.
15:14:42	15:15:40	PC	13	I COPY.	ROGER.
15:15:03	15:15:57	PC	13	DON'T YOU SEE THE CONTACT, 13?	DON'T YOU SEE THE TARGET?
15:15:05	15:15:59	13	PC	REPEAT.	COME AGAIN?
15:15:06		PC	13	THE CONTACT IS WITHIN YOUR TURNING RADIUS RIGHT NOW.	
	15:16:00	PC			YOU HAVE THE TARGET.
15:15:10	15:16:04	13	PC	CORRECT, WHAT I HAVE IS A SHIP.	RIGHT, WHAT I HAVE IS A VESSEL.
15:15:13	15:16:06	PC	13	I COPY, WE'LL KEEP SEARCHING.	ROGER; WE ARE GOING TO CONTINUE A LITTLE FURTHER AHEAD.
15:15:24		PC	13	1213 CISNE-8.	
		PC			DISTANCE?
15:15:27	15:16:19	13	PC	COME IN CISNE-8.	GO AHEAD.
15:15:28	15:16:22	PC	13	DOESN'T THE SHIP HAVE ANYTHING OUTSIDE? A BALLOON?	THE VESSEL DOES NOT HAVE ANYTHING, A GLOBE, ON THE OUTSIDE?
15:15:32	15:16:24	13	PC	NEGATIVE, I CAN SEE NOTHING.	NEGATIVE, NOTHING IS SEEN ON IT.
15:15:36	15:16:27	PC	13	I COPY.	ROGER.
15:15:50	15:16:40	PC2	PC	CISNE-8 . DO YOU HAVE 08 RADAR CONTACT?	DO YOU HAVE 08 IN SIGHT?
15:15:54	15:16:46	PC	PC 2	CORRECT.	YES.
15:16:28	15:17:16	13	PC	COME IN.	GO AHEAD.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:16:29	15:17:17	PC	08	OK, TO 08, IDENT.	THIS IS FOR (PILOT) 08, CONNECT THE UVD.
15:16:33	15:17:20	13	PC	I COPY, CONNECTED.	ROGER, CONNECTING UVD.
15:16:39	15:17:26	08	PC	CONNECTED.	CONNECTED.
	15:17:28	PC	08	CONTINUE TO TAKE CARE OF THAT AREA, 08.	CONTINUE SEARCHING IN THAT ZONE.
15:16:48	15:17:34	PC	13	UH...13, THE CONTACT IS NORTH OF SANTA FE, DISTANCE 25 KM.	THE TARGET IS NORTH OF SANTA FE AT A DISTANCE OF 25 KILOMETERS.
15:16:55	15:17:39	13	PC	I COPY, RIGHT NOW HEADING 180 ALTITUDE 1000.	ROGER, RIGHT NOT IT'S ON A COURSE OF 180, AT AN ALTITUDE OF 1000.
15:16:59	15:17:44	PC	08	REPEAT, 08.	COME AGAIN?
15:17:01	15:17:47	13	PC	HEADING 180, ALTITUDE 1000.	ON A COURSE OF 180, AT AN ALTITUDE OF 1000.
15:17:04	15:17:49	13	C8	I COPY	ROGER.
15:17:10		PC	08	08, IT IS ON YOUR LEFT, DISTANCE 10 KM.	
15:17:15	15:17:55	13	PC	13 WITH ANOTHER SHIP IN SIGHT. HEADING...AT 90 DEGREES, ON THE RIGHT.	WITH ANOTHER LAUNCH IN SIGHT ON A 90 DEGREE HEADING TO THE RIGHT.
		PC	13	I COPY, 13.	
15:17:28	15:18:11	PC	08	IT IS ON YOUR LEFT, 30 DEGREES, DISTANCE 10 KM.	YOU HAVE IT TO THE LEFT 30 DEGREES, DISTANCE.
15:17:34	15:18:17	PC	08	DID YOU COPY, 08?	DO YOU COPY ME?
15:17:36	15:18:18	08	PC	I COPY.	COME AGAIN?
15:17:48	15:18:27	PC	08	08, FIND THE CONTACT 90 DEGREES LEFT, NOW.	LOOK . . TO THE LEFT.
	15:18:28	08	PC		LOOK.
15:17:50	15:18:33	08	PC	OK, CONTACT IN SIGHT, CONTACT IN SIGHT, SMALL PLANE.	OK, THE TARGET IS IN SIGHT, THE TARGET IS IN SIGHT. IT'S A SMALL AIRCRAFT. COPIED, SMALL AIRCRAFT IN SIGHT.
15:17:56		PC	08	I COPY.	
15:17:56		08	PC	SMALL PLANE IN SIGHT.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:17:58	15:18:38	08	PC	OK. WE HAVE IT IN SIGHT. WE HAVE IT IN SIGHT.	OK. WE HAVE IT IN SIGHT. WE HAVE IT IN SIGHT.
15:18:03	15:18:45	08	PC	CONTACT IN SIGHT.	THE TARGET IS IN SIGHT.
15:18:06		08	PC	CISNE-8,...08.	
15:18:09	15:18:47	PC	08	COME IN 08.	GO AHEAD.
15:18:09	15:18:49	08	PC	CONTACT IN SIGHT.	THE TARGET IS IN SIGHT.
15:18:11	15:18:52	PC	08	CORRECT, IN SIGHT.	AIRCRAFT IN SIGHT.
15:18:14		PC	08	IDENTIFY IT.	
15:18:18	15:18:57	08	PC	REPEAT.	COME AGAIN?
15:18:19		PC	08	IDENTIFY THE SMALL PLANE.	
15:18:20	15:19:00	08	PC	IT'S A SMALL PLANE, IT'S A SMALL PLANE.	IT'S A SMALL AIRCRAFT, A SMALL AIRCRAFT.
15:18:23		PC	08	COLOUR OF THE AIRCRAFT?	
15:18:26	15:19:04	08	PC	UHH.. WHITE, WHITE.	IT'S WHITE, WHITE.
15:18:31	15:19:10	13	08	08, I'M GOING TO CLIMB UP TO ALTITUDE 2000.	I'M GOING TO CLIMB TO AN ALTITUDE OF 2000.
15:18:33	15:19:12	PC	08	COLOUR AND REGISTRATION NUMBER OF THE AIRCRAFT?	COLOUR AND REGISTRATION OF THE AIRCRAFT?
15:18:36	15:19:15	PC	08	CHECK THE REGISTRATION NUMBER.	BUDDY.
15:18:38	15:19:17	08	PC	HEY, THE REGISTRATION NUMBER TOO?	LISTEN, THE REGISTRATION ALSO?
15:18:41	15:19:19	PC	08	WHAT TYPE AND COLOUR?	WHAT KIND AND COLOUR?
15:18:44	15:19:22	08	PC	WHITE AND BLUE, PAINTED BLUE.	IT IS WHITE AND BLUE.
15:18:46		13	PC	WHITE AND BLUE.	
15:18:47	15:19:24	08	PC	WHITE AND BLUE. THE PLANE IS AT LOW ALTITUDE, SMALL PLANE.	WHITE AND BLUE, AT A LOW ALTITUDE, A SMALL AIRCRAFT.
15:19:03	15:19:38	08	PC	GIVE INSTRUCTIONS.	GIVE ME INSTRUCTIONS.
15:19:07		PC	08	IT'S A 337?	
15:19:09	15:19:44	08	PC	INSTRUCTIONS.	INSTRUCTIONS!

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:19:17	15:19:52	08	PC	HEY, AUTHORIZE ME TO... WE'RE GOING TO GIVE IT A WARNING PASS.	LISTEN, AUTHORIZE ME...
15:19:20	15:19:54	13	PC		WE ARE GOING TO GIVE IT A PASS. WE ARE GOING TO GIVE IT A PASS.
15:19:23		PC	08	HOW FAR IS IT?	
15:19:26	15:20:02	08	PC	IF WE GIVE IT A WARNING, THINGS WILL GET DIFFICULT.	IF WE GIVE IT A PASS, IT WILL COMPLICATE THINGS.
	15:20:04				WE ARE GOING TO GIVE IT A PASS. BECAUSE SOME VESSELS ARE APPROACHING THERE, I AM GOING TO GIVE IT A PASS.
15:19:29		08	PC	WE'RE GOING TO GIVE IT A WARNING.	
15:19:34		08	PC	IT'S A CESSNA 337.	
15:19:41	15:20:12	08	PC	SPEAK, SPEAK.	TALK, TALK.
15:19:45		PC	08	TELL ME IF IT'S A CESSNA 337.	
15:19:51	15:20:22	08	PC	I HAVE IT LOCKED-ON, I HAVE IT LOCKED-ON.	I HAVE IT IN LOCK-ON, I HAVE IT IN LOCK-ON.
15:19:53	15:20:24	08	PC	WE HAVE IT LOCKED-ON, AUTHORIZE US.	WE HAVE IT IN LOCK-ON, GIVE US AUTHORIZATION.
15:19:57		08	PC	WE HAVE IT LOCKED-ON, AUTHORIZE US.	
15:20:00	15:20:32	08	PC	IT'S A CESSNA 337.	IT IS A CESSNA 337. THAT ONE. GIVE US AUTHORIZATION, DAMN IT!
15:19:29		PC	08	YOU'RE AUTHORIZED TO DESTROY.	
15:20:03		08	PC	THIS IS IT, THIS IS IT, THIS IS IT.	
15:20:06		PC	08	AUTHORIZED TO DESTROY, 08.	
	15:20:40	PC	08		FIRE.
15:20:11	15:20:42	08	PC	COJONES, AUTHORIZE US.	GIVE US AUTHORIZATION, DAMN IT, WE HAVE IT.
15:20:13		08	PC	COJONES, AUTHORIZE US.	
15:20:14	15:20:44	PC	08	AUTHORIZED TO DESTROY, 08.	AUTHORIZED TO DESTROY.
15:20:17	15:20:48	08	PC	UHH, WE ALREADY WARNED IT.	I'M GOING TO PASS IT.
15:20:20		PC	08	AUTHORIZED.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:20:23	15:20:51	PC	08	AUTHORIZED TO DESTROY.	AUTHORIZED TO DESTROY.
15:20:25	15:20:54	08	PC	WE ALREADY COPIED. WE ALREADY COPIED.	WE ALREADY COPIED. WE ALREADY COPIED.
15:20:27		PC	08	AUTHORIZED TO DESTROY, 08.	
15:20:34	15:21:02	08	C8	WHERE IS IT, FRANK?	WHERE IS IT, FRANK?
15:20:39		PC	08	08, AUTHORIZED TO DESTROY.	
		08	--	READY.	
15:20:40		PC	08	08, AUTHORIZED TO DESTROY...	
15:20:43	15:21:08	PC	08	AUTHORIZED.	AUTHORIZED TO DESTROY.
15:20:45	15:21:15	08	PC	I COPY, RECEIVED ALREADY, RECEIVED ALREADY, LEAVE US ALONE NOW.	UNDERSTOOD, ALREADY RECEIVED. ALREADY RECEIVED. LEAVE US ALONE FOR NOW.
15:20:57	15:21:23	PC	08	DON'T LOSE IS 08.	DON'T LOSE IT.
15:21:07	15:21:32	08	PC	FIRST SHOT.	FIRST LAUNCH.
15:21:13	15:21:37	08	PC	TARGET, ...COJONES, WE HIT IT, WE HIT IT, TARGET...	WE HIT HIM! DAMN! WE HIT HIM! WE HIT HIM! WE RETIRED HIM!
15:21:23	15:21:46	08	08	WAIT, WAIT, TO SEE...TO SEE WHERE IT FALLS.	WAIT TO SEE WHERE IT FELL.
15:21:25		08	PC	MARK, MARK THERE.	
	15:21:52	08	--	COJONES, WE HIT IT...	COME ON IN, COME ON IN! DAMN, WE HIT IT. FUCKERS!
	15:21:56	08	PC		MARK THE PLACE WHERE WE TOOK IT OUT.
15:21:35	15:21:59	08	--	THIS ONE WON'T MESS AROUND ANYMORE.	WE ARE OVER IT. THIS ONE WON'T MESS AROUND ANYMORE.
	15:22:01	PC	08		CONGRATULATIONS TO THE TWO OF YOU.
15:21:39	15:22:03	08	PC	HEY, MARK THE PLACE.	MARK THE SPOT.
15:21:41	15:22:09	08	PC	CORRECT, MARKED.	CORRECT. MARKED.
15:21:42	15:22:11	08	13	SHIT, BUDDY.	SHIT, BUDDY.
15:21:44		PC	08	TELL ME, 08.	
15:21:46	15:22:14	08	PC	COME IN.	GO AHEAD.
15:21:48		PC	08	TELL ME WHAT'S UP.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:21:51	15:22:18	PC	08	SAR TAKING OFF, AUTHORIZED AT 1000 M.	LET'S GO ALBERTO. THE SAR IS TAKING OFF, AUTHORIZED ALTITUDE.
15:21:55	15:22:21	08	PC (13)	MARK IT...DID YOU MARK THE PLACE?	DID THEY MARK THE SPOT?
15:21:57	15:22:23	PC(13)	08	-CORRECT, CORRECT.	CORRECT.
		08	PC	-HEY, DID YOU MARK THE PLACE?	
	15:22:31				OK. THERE'S A LAUNCH NEAR IT. THE AIRCRAFT FELL NEAR THE LAUNCH.
15:22:00	15:22:39	08	PC	HEY, DID YOU MARK THE PLACE, SO WE CAN LEAVE?	LISTEN, THEY MARKED THE SPOT SO WE CAN GO.
15:22:02	15:22:40	PC	08	CORRECT, IT'S MARKED.	CORRECT, MARKED.
15:22:04	15:22:44	08	PC	GOOD.	GREAT.
15:22:05	15:22:50	SAR	DV	SAR DO YOU READ ME, ANTONIO?	DO YOU COPY?
15:22:16	15:22:54	PC	08	OK, 08, LET'S CLIMB TO ALTITUDE 4000 M.	CLIMB TO 4000 METERS.
15:22:19	15:22:58	08	PC	WE'RE CLIMBING, GOING BACK HOME.	WE'RE CLIMBING AND RETURNING HOME.
15:22:22	15:23:00	PC	08	STAY THERE, DOING A 360, UP THERE.	STAND BY THERE CIRCLING ABOVE.
15:22:27	15:23:07	08	PC	OVER THE CONTACT?	OVER THE TARGET?
15:22:29	15:23:09	PC	08	CORRECT.	CORRECT.
15:22:30	15:23:10	08	PC	SHIT, BUT WE TOLD YOU, BUDDY.	SHIT, WE DID TELL YOU, BUDDY.
15:22:32	15:23:11	PC	08	CORRECT, THE CONTACT IS MARKED.	CORRECT, THE TARGET IS MARKED.
15:22:36	15:23:13	13	PC	13 ORBITING EAST,...WEST OF BARACOA.	CIRCLING TO THE WEST OF BARACOA.
15:22:39	15:23:17	PC	13	CORRECT, RADAR CONTACT, 18 FROM THE FIELD.	IN SIGHT 18 (KM) FROM THE FIELD.
15:22:50		PC	08	08 CISNE-2.	
15:22:51	15:23:27	08	PC	COME IN.	GO AHEAD.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:22:53	15:23:28	PC	08	LISTEN, LET US CLIMB TO HEIGHT 3200 TO 4000 M. ABOVE THE CONTACT DESTROYED THERE, AND MAINTAIN ECONOMIC SPEED.	OK, CLIMB TO 3200, 4000 METERS ABOVE THE DESTROYED TARGET AND MAINTAIN ECONOMICAL SPEED.
	15:23:39	78	C2		HEY, IT LOOKS LIKE THE LAUNCH TURNED TOWARDS THERE.
	15:23:41	13	PC		THE LAUNCH TURNED TOWARD THERE, GOT IT?
	15:23:47	13	PC		THE LAUNCH TURNED TO WHERE THE TARGET WAS, WHERE IT FELL.
15:23:07		DV	72	2972 ANTONIO.	
15:23:12		DV	72	72 ANTONIO.	
15:23:23		PC	08	CISNE-2	
15:23:26	15:24:09	08	PC	COME IN.	GO AHEAD.
15:23:28	15:24:10	PC	08	UH... YOU MUST TRY TO STAY UP THERE, THERE ...	I NEED YOU TO STAND BY ...THERE. WHAT HEADING DID THE LAUNCH HAVE?
	15:24:18	08	C2		THE LAUNCH WENT TO 180.
	15:24:22	13	C2		IT WAS ON 360, NOW IT TURNED TO 180, TOWARD THE PLACE WHERE IT FELL.
15:23:30	15:24:25	08	PC	...I'VE GOT ANOTHER SMALL PLANE IN SIGHT.	I HAVE ANOTHER AIRCRAFT IN SIGHT.
15:23:33	15:24:27	08	PC	WE'VE GOT ANOTHER SMALL PLANE.	WE HAVE ANOTHER AIRCRAFT.
15:23:36		08	PC	WE'VE GOT ANOTHER SMALL PLANE.	
15:23:41	15:24:35	PC	08	ROGER. KEEP TRACK OF IT. DON'T LOSE THE OTHER SMALL PLANE.	FOLLOW IT. DON'T LOSE THE OTHER SMALL AIRCRAFT.
15:23:45	15:24:38	08	PC	WE'VE GOT ANOTHER SMALL PLANE IN SIGHT.	WE HAVE ANOTHER AIRCRAFT IN SIGHT. IT'S IN THE AREA WHERE (THE FIRST AIRCRAFT) FELL.
15:23:47		PC	08	POSITION OF THAT SMALL PLANE?	
15:23:50		PC	08	TELL ME AT WHAT DISTANCE YOU'VE GOT IT, 08.	
15:23:54		08	PC	IT'S IN THE AREA, IT'S IN THE AREA WHERE IT FELL.	IT'S IN THE AREA WHERE IT FELL.
		..	..	...HEIGHT?	
	15:24:44	08	PC	WE'VE GOT THE SMALL PLANE IN SIGHT.	WE HAVE THE AIRCRAFT IN SIGHT.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:24:01		PC	08	08, POSITION OF THAT SMALL PLANE?	
15:24:03	15:24:53	PC	08	STAY WITH IT, 08...	STAND BY.
15:24:04	15:24:55	08	PC	COMRADE, IT IS HIGH, WHERE THE EVENTS TOOK PLACE.	COMRADE, IT'S IN THE AREA OF THE EVENT.
15:24:07		PC	08	ROGER.	
15:24:10	15:25:01	08	PC	DO YOU READ ME?	DID YOU COPY?
15:24:12		DV	72	2972 ANTONIO.	
15:24:19		PC	08	WELL, 08 AND 13, YOU MUST TRY TO STAY THERE, OVER THE SMALL PLANE, DON'T LOSE SIGHT OF IT.	
15:24:25				-YES	
	15:25:14	08	13	WHAT IS YOUR HEIGHT, 13?	WHAT'S YOUR ALTITUDE?
15:24:27		08	13	13, 08.	
15:24:29		13	08	COME IN.	
15:24:30		08	13	HEIGHT?	
15:24:31	15:25:20	13	08	NO, I'M AT 1000 M, I'M FAR AWAY FROM YOU, I'M WEST OF BARACOA.	NO, I'M AT 1000 METERS, I'M FAR FROM YOU, I'M TO THE WEST OF BARACOA.
15:24:36	15:25:27	08	13	DON'T COME THIS WAY..	TRUE, DON'T STAY HERE, WE ARE AT 5000 METERS.
15:24:40		13	08	ROGER.	
15:24:41	15:25:30	08	PC	THE PLANE IS FOLLOWING A 90 DEGREE COURSE NOW.	OK, THIS AIRCRAFT IS HEADED 90 DEGREES NOW.
15:24:45		PC	08	WHITE AND ORANGE?	
15:24:48	15:25:34	08	PC	IT IS IN THE AREA WHERE THE EVENT TOOK PLACE, WHERE THE TARGET WENT DOWN. WE NEED AUTHORIZATION.	IT'S IN THE AREA OF THE EVENT, WHERE THE TARGET FELL, THEY'RE GOING TO HAVE TO AUTHORIZE US.
15:24:51	15:25:40	08	PC	NO NEED FOR THE BSR [SAR]. THERE IS NOTHING LEFT THERE.	HEY, THE SAR ISN'T NEEDED, NOTHING REMAINS, NOTHING.
15:24:56	15:25:44	PC	08	ROGER, LISTEN, LOOK, KEEP TRACK OF THE SMALL PLANE. KEEP TRACK OF IT AND STAY ABOVE IT.	CORRECT, KEEP FOLLOWING THE AIRCRAFT. YOU'RE GOING TO STAY ABOVE IT.
15:25:01	15:25:47	08	PC	WE'RE ABOVE IT.	WE'RE ABOVE IT.
15:25:04	15:25:52	PC	08	ROGER, 08 AND 13, (YOU'RE) AUTHORIZED TO DESTROY THE SECOND PLANE.	CORRECT.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:25:08	15:25:55	08	PC	TO DO WHAT, TO DO WHAT?	FOR WHAT?
15:25:12		PC	08	TO DESTROY THE SECOND PLANE.	
15:25:13		08	--	COME ON.	
15:25:16		PC	08	GET READY, EASY THERE, NO PROBLEM.	
15:25:19	15:26:01	08	PC	IS THERE AUTHORIZATION FOR THE OTHER ONE?	IS THE OTHER AUTHORIZED?
15:25:21	15:26:04	PC	08	THAT'S RIGHT, IT'S AUTHORIZED.	CORRECT
	15:26:07	PC	08		GREAT. LET'S GO ALBERTO.
15:25:24	15:26:09	13	08	HAVE YOU GOT IT?	DO YOU HAVE IT?
15:25:28	15:26:14	PC	13	13, 020 SPEAKING, YOU ARE AUTHORIZED TO DESTROY IT.	YOU ARE AUTHORIZED TO DESTROY IT.
15:25:32	15:26:16	08	PC	ROGER, ROGER, WE ARE ALL SET TO DESTROY IT.	UNDERSTOOD, WE ARE NOW GOING TO DESTROY IT.
15:25:51	15:26:34	PC	08	ARE YOU KEEPING IT IN SIGHT, 08?	DO YOU STILL HAVE IT IN SIGHT?
15:25:52	15:26:36	08	PC	WE ARE, WE ARE, WE'RE WORKING, LET US WORK.	WE HAVE IT, WE HAVE IT, WE'RE WORKING, LET US WORK.
15:25:56		PC	08	ROGER, PROCEED	
15:26:10		22	DV	22 IN ONE	
15:26:53		45	DV	45 IN ONE	
15:26:57		DV	45	CORRECT	
15:26:59				... ONE ONE	
15:27:14		PC	08	TELL ME 08	
15:27:16	15:27:52	08	PC	CALM, CALM	CALMLY
15:27:18		--	PC	LET THEM WORK, LET THEM WORK	
15:27:28		PC	08	ONE, 08?	
15:27:39	15:28:13	08	PC	THE OTHER ONE DESTROYED, THE OTHER ONE DESTROYED, MOTHERLAND OR DEATH, COJONES THE OTHER ONE IS DOWN TOO.	THE OTHER IS DESTROYED, THE OTHER IS DESTROYED, FATHERLAND OR DEATH, SHIT, THE OTHER IS DOWN ALSO.
15:27:52	15:28:27	SAR	08	08, STAY THERE. WE ARE GOING TO THE SPOT, TO THE PLACE.	STAND BY, WE'RE GOING TO .....
15:27:56	15:28:32	08	PC	OK, 08 HAS 1200 ALREADY	THE ONE HAS 12 NOW.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
	15:28:35				IN THE PLACE WHERE EVENTS TOOK PLACE IT LOOKS LIKE THE BOAT IS PICKING UP NOW. A BOAT IS PICKING UP. ...IN THE FIRST...
15:27:59	15:28:49	08	PC	ONE 12 RETURNING.	A BOAT IS PICKING UP IN THE FIRST ... THE ONE 12, RETURNING...
15:28:03	15:28:56	SAR	PC	13 (BSR)[SAR] CAIMITO.	ONE TWO THREE, CALMITO
	15:29:02				KEEP IN MIND THAT THERE IS A BOAT THERE, BE CAREFUL.
	15:29:04				THERE IS A FISHING BOAT.
15:28:10		SAR	PC	TELL ME HIS COURSE, COMING OUT OF BARACOA.	
15:28:13		PC	SAR	COMING OUT OF WHERE?	
	15:29:05	PC	13		CORRECT.
15:28:15	15:29:11	SAR	PC	COMING OUT OF BARACOA, GIVE ME THE COURSE.	LEAVING BARACOA, GIVING THE COURSE.
15:28:17		PC	SAR	FROM BARACOA TAKE COURSE 330, TO 5 KM.	
15:28:23	15:29:21	SAR	PC	COURSE 330 FROM BARACOA?	COURSE 330 FROM BARACOA. CORRECT, I AM AT THE END OF .. 02, I WILL GO DIRECTLY.
15:28:25		PC	SAR	CORRECT.	
15:28:26		SAR	PC	CORRECT, I'M AT THE END OF.. I'M GOING DIRECTLY.	
15:28:35	15:29:37	PC	SAR	270.	70
15:28:40		SAR	PC	TWO SEVEN ZERO.	
15:28:44		PC	SAR	APPROXIMATELY 5 KM FROM EL ESPERON, NORTH OF EL ESPERON.	
15:28:49		SAR	PC	ROGER.	
15:28:53	15:29:52	08	PC	OK, 08 IS COMING THROUGH GUANABO.	08 WILL ENTER VIA GUANABO.
15:29:02	15:29:58	PC	08	GIVE ME ONE, 08.	GIVE ME THE ONE.
15:29:03	15:30:00	08	PC	ONE, 11.	THE ONE IS 11.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:29:05	15:30:02	PC	08	08, CONTACT 2972 (SAR), AND LEAD HIM TO THE PLACE MORE OR LESS.	CONTACT 2972 AND DIRECT THE ...TO THE LOCATION.
15:29:10		08	72	2972, 08.	
	15:30:07	72	08		GO AHEAD.
	15:30:08	08	72		OK. THERE IS A LARGE PASSENGER BOAT THAT IS CLOSE TO THE ZONE. THAT IS, THE BOAT IS GOING ON A COURSE OF 90 APPROXIMATELY. AND THAT IS TO THE RIGHT OF THAT BOAT, THE BIG BOAT.
15:29:12	15:30:31	72	08	WE ARE CHECKING, MORE OR LESS, MENELAO MORA, MENELAO MORA, HERE IN THE BARACOA BEACH AREA.	UNDERSTOOD. WE ARE CHECKING MORE OR LESS MENELAO MORA HERE IN THE ZONE OF PLAYA BARACOA.
15:29:17		08	72	ROGER.	
15:29:27		08	DV	ANTONIO...ANTONIO, 08.	
15:29:33		DV	08	COME IN.	
	15:30:36	08	72		GO TO 360 AND LOOK FOR THE BOAT, THE BIG BOAT, AND TO THE RIGHT OF THE BOAT, BEFORE YOU GET TO THE BIG BOAT, IS THE TARGET. DON'T GO TOO LOW. DON'T APPROACH IT LOW. BE CAREFUL, IN THE ZONE WHERE THE FIRST ONE FELL THERE IS A TARGET A BOAT. TAKE IT INTO ACCOUNT. BE CAREFUL OF IT.
	15:30:54	72	08		UNDERSTOOD.
15:29:33	15:31:07	08	PC	A FAST ONE MUST TAKE OFF FOR THE AREA.	A RAPID ... NEEDS TO TAKE OFF FOR THE REGION.
15:29:37		45		45, READY WITH AIR TO GROUND.	
15:29:40		22	DV	WHAT ABOUT 22?	
15:29:41		DV	45	STAND-BY, STAND-BY.	
15:29:46		SAR	PC	CISNE-2, INSTRUCTIONS FOR 13 (BSR)[SAR].	
15:29:58		08	PC	OK, 08 OVER THE COAST.	
15:30:01		--	--	ANOTHER ONE IS APPROACHING.	
15:30:22	15:31:55	PC	08	08 ONE?	THE ONE?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:30:23	15:31:57	08	PC	ONE 10.	THE ONE, 10.
15:30:26	15:32:01	PC	13	13 ONE?	THE ONE?
15:30:28	15:32:02	13	PC	ONE 15.	THE ONE, 15.
15:30:31	15:32:06	PC	13	ROGER. HEIGHT?	ALTITUDE?
15:30:33	15:32:07	13	PC	ONE THOUSAND METERS WEST OF BARACOA.	1000 METERS, WEST OF BARACOA.
15:30:36	15:32:09	PC	13	KEEP TO HEIGHT 1000 M.	MAINTAIN ALTITUDE 1000 METERS (TRANSMISSION GARBLED)
15:30:41	15:32:16	SAR	08	08, 13.	(CALLS)
15:30:43		PC	08	ONE 08?	FUEL REMAINDER?
15:30:46		08	PC	ONE 10.	FUEL REMAINDER 10, 10.
15:30:48	15:32:20	PC	08	WHAT'S THAT?	HOW MUCH?
15:30:50		08	PC	10.	10.
15:30:51				08, 13.	(CALLS)
15:30:53		08	SAR	COME IN.	GO AHEAD.
15:30:54	15:32:25	SAR	08	THERE IS A SHIP OVER THERE, WEST OF THE NAVAL ACADEMY, ABOUT 5 KM.	I HAVE THE VESSEL THERE NORTH OF THE ACADEMY, ABOUT 5 KM FROM THE NAVAL ACADEMY, LARGE.
		08	45		BUT IT IS A VERY LARGE VESSEL, WHITE, PASSENGER TYPE.
		45	M29		CORRECT.
		M29	45		THAT IS NOT AT 5 KM, IT IS FAR OUT.
15:30:59		DV	45	45, ANTONIO...START UP, TAXI AND TAKE-OFF.	
15:31:03		PC	08	2908 CONTACT 2972 (BSR)[SAR] TO CHECK POSITION.	MAKE CONTACT WITH 2L 2972 TO CHECK THE POSITION.
15:31:10		08	72	2972...ANTONIO...UH...08.	(CALLS)
15:31:14	15:32:50	SAR	08	08, I'VE GOT A TARGET IN SIGHT, I'VE GOT THE TARGET.	I HAVE THE TARGET IN SIGHT, I HAVE THE TARGET.
		45	2972		COPIED, THERE IS A LAUNCH THERE THAT IS PICKING UP.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		2972	45		LISTEN, I AM ABOUT 10 KM FROM THE TARGET.
		08	2972		THAT IS CORRECT. THAT IS, THE LARGE VESSEL IS GOING TO SIGNAL YOU, MORE OR LESS TO THE RIGHT AND A LITTLE BEFORE YOU REACH THE LARGE VESSEL THERE IS A SMALL VESSEL THERE WHERE IT IS, WHERE THE FIRST FELL.
		BSR	08		NO, BUT I AM ON COURSE 320 FROM ...
15:31:16		DV	08	08, ANTONIO.	
15:31:18		08	DV	COME IN.	GO AHEAD.
15:31:19		DV	08	45 IS HEADED OVER THERE.	
15:31:21		08	DV	ROGER.	(GIVE ME A POSITION??)
15:31:22		08	DV	08, I'M SOUTH OF BOYEROS	ROGER. I AM SOUTH OF BOYEROS
15:31:28		PC	08	HEIGHT?	ALTITUDE?
15:31:29	15:33:27	08	PC	4500 M	4,500 METERS.
15:31:31		PC	08	ROGER. KEEP TO THE SAME HEIGHT AND INFORM ON THE SECOND.	CORRECT. MAINTAIN ALTITUDE ...
15:31:33	15:33:32	08	PC	I READ YOU.	COPIED.
15:31:35		22	DV	ANTONIO, 22 STARTING UP.	
15:31:43		3014	DV	ANTONIO, 3014.	
15:31:53				ANTONIO, 3014.	
15:31:58		08	DV	ANTONIO, 3014 IS CALLING YOU.	ANTONIO, 3014 IS CALLING YOU.
15:32:03	15:33:58	DV	--	COME IN, ANTONIO.	GO AHEAD.
15:32:05		14	DV	3014 IN ONE.	
15:32:07		DV	--	WELL, 08 AND 13, WE ARE GOING TO CARRY OUT A SHORT RUN.	WE WILL DO A SHORT TRAFFIC PATTERN.
15:32:11		08	DV	08 IS NEXT TO THE SECOND. AUTHORIZE ME TO GO DOWN.	APPROACHING THE SECOND. AUTHORIZATION TO DESCEND.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:32:15	15:34:05	DV	08	YOU'RE AUTHORIZED TO COME DOWN FOR A DIRECT LANDING.	AUTHORIZED TO DESCEND FOR LANDING...
15:32:19		08	DV	08.	08.
15:32:25	15:34:12	13	DV	13. I AM MAINTAINING 1000 TO THE FIELD.	I WILL MAINTAIN 1,000 METERS TO THE FIELD.
15:32:37		14	DV	ANTONIO, 3014 IN ONE.	(CALLS)
15:32:43		DV	13	ROGER 13.	
15:33:09		PC	45	45, ANTONIO-1.	
15:33:11		45	PC	LOUD AND CLEAR.	
15:33:12		PC	45	WE ARE GOING TO SCOUT OVER BEJUCAL. LOOK FOR TARGET WITH A 240 COURSE.	WE WILL RECONNOITER ... A TARGET ENTERING ON COURSE 240.
15:33:15		45	PC	TURNING RIGHT TOWARDS BEJUCAL.	TURNING TO THE RIGHT TO ...
15:33:24	15:35:10	PC	45	2945, TAKING OFF, ON THE RIGHT, NEAR BEJUCAL WATCH THE PLANE COMING NEAR.	CORRECT, ... 2945 ... ME TO THE RIGHT NEAR...FROM LA SALUD TO BEJUCAL OBSERVE IN THIS AREA THAT COMES ...
15:33:34		08	DV	08 1500 IN GUIRA.	
15:33:39		08	45	DID YOU COPY, 45?	AT 1,500 METERS IN THE SECOND. DO YOU COPY, 45?
15:33:42		45	08	CORRECT.	CORRECT.
15:33:43	15:35:25	08	45	I'M STARTING TO DESCEND FOR THE LANDING.	I AM GOING TO DESCEND TO LAND.
		PC	08	CARRY ON 08, 45 IS..	COPIED, COPIED.
15:33:45		--	--	22 TAKING OFF	
15:33:47		13	DV	13, HEADED FOR THE FOURTH 1000.	... TOWARD THE FOURTH, 1,000 METERS.
15:33:51		PC	45	2945, CISNE-2.	(CALLS)
15:34:18	15:35:59	45	PC	COME IN.	GO AHEAD. GO AHEAD, COURSE TOWARD BEJUCAL.
15:34:22		45	PC	COME IN 45, OVER BEJUCAL.	
		PC	45	2945, WE'LL SET COURSE NORTH OF HAVANA.	EH.... NORTH..., NORTH OF HAVANA, WE ARE GOING TO NORTH OF HAVANA.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:34:25	15:36:08	45	PC	I COPY. ALLOW ME TO GO THROUGH HAVANA.	UNDERSTOOD, DO YOU AUTHORIZE ME TO CROSS HAVANA?
15:34:33	15:36:10	PC	45	NEGATIVE. NOT THROUGH HAVANA, BUT EAST OF HAVANA. WE'LL FLY OVER THE EAST OF HAVANA, HEIGHT 200 M, AND THEN CLIMB, AFTER THE COAST, CLIMB TO HEIGHT 1000.	NEGATIVE, CROSSING HAVANA, NO. TO THE EAST OF HAVANA.
15:34:36	15:36:12	2945	72		OK. TO THE EAST.
		72	29 45		... METERS AND THEN CLIMB...AFTER THE COAST CLIMB TO ALTITUDE 1,000.
15:34:48	15:36:27	45	PC	45.	45.
15:34:55	15:36:27	08	DV	08 IN THIRD, LANDING GEARS, FLAPS, NORMAL PRESSURE.	2003 FLAPS IN...
15:34:59		DV	08	WIND IS STILL CALM.	...
15:35:02	15:36:33	08	DV	08.	08.
15:35:05		22	PC	CISNE-2, 22	(CALLS)
15:35:08	15:36:40	PC	22	COME IN.	GO AHEAD.
15:35:09	15:36:42	22	PC	22 AIRBORNE.	IN THE AIR.
15:35:11	15:36:43	PC	22	ROGER.	CORRECT.
15:35:14		13	DV	ANTONIO, 13 PASSED THE FOURTH, GOING INTO THE THIRD.	GO TO FOUR WITH (130?)
15:35:17		DV	13	CARRY ON.	
15:35:24	15:36:52	PC	45	2945, DO YOU COPY ME?	DO YOU COPY ME?
15:35:26		45	PC	I COPY. EAST OF HAVANA.	I COPIED, TO THE EAST OF HAVANA.
15:35:28	15:36:58	PC	45	THAT IS CORRECT. NORTH OF HAVANA. CONTACT 2972 TO SEE IF IT IS ON TOP OF THE TARGET.	THAT IS CORRECT, TO THE NORTH OF HAVANA. CONTACT 2972 FOR ME TO SEE IF THEY ARE OVER THE TARGET.
15:35:35		45	PC	ROGER.	UNDERSTOOD.
15:35:36	15:37:04	45	72	72, 45.	(CALLS)
15:35:37	15:37:06	SAR	45	COME IN.	GO AHEAD.
15:35:38	15:37:08	45	SAR	YOU HAVE THE TARGET?	DO YOU HAVE THE TARGET?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:35:40		SAR	45	NEGATIVE.	NEGATIVE, I AM AT ABOUT 5 KM, ABOUT 3 KM FROM THE WHITE TRANSPORT VESSEL ON COURSE 330 AT THIS TIME.
15:35:41		45	SAR	ROGER.	UNDERSTOOD, YOU ARE APPROACHING THE TRANSPORT VESSEL NOW.
		45			THERE IS A SMALLER VESSEL IN THAT ZONE, TELL HIM IT IS THE ONE...
		72	45		CORRECT, TO THE SOUTH OF THE LARGE VESSEL IS A SMALLER DOWN ONE
		45			THAT IS WHERE THEY ARE, THERE WHERE THEY ARE. THERE WHERE THE FIRST (ONE) FELL IS WHERE THE VESSEL IS.
					...
15:35:42		DV	--	GIVE ME A CHANCE TO LAND THE FIGHTERS. GIVE ME A CHANCE.	
15:35:47		08	DV	IN FLAPS POSITION.	
15:35:48		DV	08	CARRY ON.	
15:35:57		22	PC	22. I'M HEADING NORTH OF CELIMAR.	DID YOU UNDERSTAND? HE GAVE ME THE REPORT (BLOCKED).
15:36:20	15:38:10	22	45	45, HEIGHT?	ALTITUDE?
15:36:21		DV	08	LAND, 08.	
15:36:23	15:38:16	08	DV	08 COMPLETE.	(CALLS)
		45	PC	45 IN HEIGHT 300.	...
	15:38:19	22	45	I COPIED 300.	DID YOU COPY 300?
	15:38:20	45	22	CORRECT 300.	CORRECT, 300
15:36:33	15:38:22	22	45	OK. I KEEP 1000.	OK, I MAINTAIN 1,000
15:36:35	15:38:23	45	22	ROGER.	(CALLS)
15:36:40	15:38:29	PC	45	2945 CISNE-2.	(CALLS)
15:36:43		45	PC	2945	2945
15:36:46		45	PC	ROGER.	GO AHEAD.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:36:47	15:38:34	PC	45	CORRECT. KEEP HEIGHT 1000, COURSE 270, ALONG THE COAST, 10-15 KM FROM THE COAST, TO SANTA CRUZ.	CORRECT, MAINTAIN ALTITUDE 1,000 METERS, COURSE 270 ALONG THE COASTLINE AT DISTANCE 10 KILO... AT 15 KM FROM THE COAST, TOWARD SANTA CRUZ.
15:36:58	15:38:44	45	PC	45	...
15:37:01	15:38:47	22	PC	22. I KEEP 1500.	I MAINTAIN 1,500
15:37:06	15:38:52	13	DV	13, WINGS, LANDING GEARS, FLAPS, NORMAL PRESSURE.	NORMAL PRESSURE.
15:37:09		DV	13	WIND CALM, 13.	UNDERSTOOD
15:37:11	15:39:00	13	DV	13	13.
15:37:36	15:39:21	PC	DV	22 AND 45, ARE THE TWO STILL IN SIGHT?	ARE THE TWO STILL IN SIGHT?
15:37:40	15:39:22	45	PC	45 WITH 270 COURSE.	COURSE 270.
15:37:43	15:39:25	PC	45	DO YOU STILL HAVE THE NUMBER IN SIGHT?	IS THE NUMBER STILL IN SIGHT?
15:37:46	15:39:28	22	--	22. I KEEP 1500 NORTH OF...	I MAINTAIN 1,500 METERS.
15:37:50	15:39:30	PC	22	ARE THEY STILL IN SIGHT?	ARE THEY STILL IN SIGHT?
15:37:52	15:39:33	22	PC	NO, NEGATIVE. NOT YET.	NO, STILL NOT.
15:37:56	15:39:37	PC	22	INFORM ME WHEN YOU ARE IN FORMATION.	I REPORT THAT NO...
15:38:00	15:39:41	45	PC	45 HEADING TO SANTA CRUZ.	COURSE TOWARD SANTA CRUZ.
15:38:06	15:39:46	13	DV	13 FLAP POSITION COMPLETE.	FULL FLAPS.
15:38:09		DV	13	CARRY ON.	
15:38:27	15:40:07	22	45	IN SIGHT. I'M GOING INTO FORMATION.	IN SIGHT.
15:38:30		45	22	ROGER.	UNDERSTOOD.
15:38:37		DV	13	LAND 13.	
15:38:39		13	DV	ROGER.	
15:38:41		22	PC	22 IN FORMATION WITH 45.	REPORTING THAT...

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:38:46		DV	13-08	13 AND 08, REMEMBER TO DISCONNECT ARMAMENT...DISCONNECT ARMAMENT, 13 AND 08.	...
15:38:53	15:40:31	13	DV	DISCONNECTED.	DISCONNECTED.
15:38:54		08	DV	DISCONNECTED.	
15:39:05		45	PC	45 FIVE FROM SANTA CRUZ.	5 FROM...
		PC	45	ROGER.	
15:39:16	15:40:49	45	PC	INSTRUCTIONS FOR 45.	
		DV	13	RELEASE THE PARACHUTE THERE.	
15:39:28	15:41:00	PC	45	2945, CISNE-2.	(CALLS)
15:39:31		45	PC	COME IN.	GO AHEAD.
15:39:32		PC	45	KEEP TO HEIGHT 2, 15 KM NORTH OF SANTA CRUZ, ECONOMIC SPEED.	MAINTAIN ALTITUDE 2, 15 KM NORTH OF SANTA CRUZ...
15:39:37	15:41:10	PC	45	ECONOMIC SPEED.	
15:39:38		45	PC	45	45.
15:39:42	15:41:14	PC	45	45. ASK 2972 IF HE IS ON THE TARGET.	ASK 2972 IS HE IS OVER THE TARGET.
15:39:49	15:41:19	45	SAR	72, 45 ... ON THE TARGET?	OVER THE TARGET?
		72	45		AFFIRMATIVE, I AM AT 1,500 METERS FROM THE TARGET.
		45	72		500 METERS FROM THE TARGET?
15:39:41		SAR	45	I DO NOT YET HAVE THE TARGET IN SIGHT.	(BLOCKED) TARGET IS STILL IN SIGHT.
15:39:53	15:41:28	PC	45	I COPY. TELL HIM TO INFORM ME WHEN HE'S ON THE TARGET.	UNDERSTOOD, TELL HIM TO LET YOU KNOW WHEN HE IS OVER THE TARGET.
15:39:57	15:41:30	45	SAR	INFORM ME WHEN YOU ARE ON THE TARGET.	TELL ME WHEN YOU ARE OVER THE TARGET.
		72	45		AND WHAT IS THE POSITION OF THE TARGET, TELL ME.
15:40:01		22	45	GIVE ME TARGET POSITION. I'M IN FORMATION.	

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:40:08	15:41:40	22	45	TO YOUR RIGHT.	TO YOUR RIGHT.
15:40:11	15:41:42	45	22	IN SIGHT.	
15:40:17	15:41:49	PC	45	45...POSITION?	POSITION?
15:40:19	15:41:50	45	PC	NORTH OF SANTA CRUZ 5 KM.	NORTH OF SANTA CRUZ, 5 KM.
15:40:27	15:42:02	PC	45	NORTH OF SANTA CRUZ. CORRECT. MAINTAIN.	NORTH OF SANTA CRUZ, CORRECT. MAINTAIN ALTITUDE 2?
15:40:32		PC	45	HEIGHT 2.	
15:40:33	15:42:04	45	PC	CORRECT. HEIGHT 2.	
15:40:35		PC	45	2945...CISNE-2.	(CALLS)
15:40:37		45	PC	GO AHEAD.	GO AHEAD.
15:40:38	15:42:13	PC	45	ON THE RIGHT, PUT COURSE 360...360, FLY 3 MIN...3 MIN...WITH COURSE 360.	TO THE LEFT TO COURSE 360, GO 3 MINUTES ON COURSE 360.
15:40:49	15:42:18	45	PC	COPY, 360, 3 MIN.	COPIED, 360 FOR THREE MINUTES.
	15:42:36	45	22		I DO NOT ... YOU.
		PC	29 45		ASK 2972 THE...TARGET.
		45	72		WHAT IS THE TARGET?
		72	45		WE HAVE THE VESSEL IN SIGHT.
		45	72		THE VESSEL, BUT THE SMALL ONE OR THE LARGE ONE?
		72	45		THE LARGE VESSEL, A LARGE VESSEL.
		45	72		UNDERSTOOD, NOW YOU HAVE THE LARGE VESSEL IN SIGHT.
		72	45		IT IS A TRANSPORT.
	15:43:13	72	45		IT IS A TRANSPORT VESSEL. THEY ARE CLOSE.
15:41:08		45	22	MAKE YOURSELF COMFORTABLE ... MAKE YOURSELF COMFORTABLE TO SEARCH FOR IT	
15:41:25	15:43:40	PC	45	PAY ATTENTION 45, AFTER FLYING 3 MIN WE WILL MAKE A PATTERN THERE TO THE RIGHT, THERE TO THE RIGHT.	AFTER... AT 3 MINUTES IN ORDER TO MAKE A PATTERN TO THE LEFT.. TO THE RIGHT.
15:41:33	15:43:50	45	PC	45	45.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:41:44		PC	45	45...CISNE-8	(CALLS)
15:41:45	15:43:55	45	PC	LOUD AND CLEAR, GO AHEAD	LOUD AND CLEAR, GO AHEAD.
15:41:48		PC	45	CORRECT, SMALL AIRCRAFT 10 DEGREES TO THE LEFT, DISTANCE 20 KM	...DISTANCE...
15:41:52	15:44:08	45	PC	COPIED, 10 DEGREES TO THE LEFT DISTANCE 20	COPIED, 10 DEGREES TO THE LEFT, DISTANCE 20.
15:41:55	15:44:10	PC	45	ALTITUDE 2600	
15:41:57		45	PC	ROGER, ALTITUDE 2600	UNDERSTOOD, ALTITUDE 1,600.
15:42:18	15:44:20	PC	45	CONTACT 10 DEGREES...ABOUT 5 DEGREES TO THE LEFT, DISTANCE 12 KM	TARGET 10 DEGREES TO YOUR LEFT...5 DEGREES TO YOUR LEFT, DISTANCE 12 KM.
15:42:24	15:44:27	45	PC	45	
15:42:29	15:44:32	PC	SAR	2872...CISNE-2	(CALLS)
	15:44:54	PC	45	45 RECOGNIZE CONTACT...AT 12...8	RECONNOITER THE TARGET.
15:42:59	15:45:00	45	PC	I DON'T HAVE IT IN SIGHT...GIVE ME POSITION	UNDERSTOOD, I STILL DO NOT HAVE IT IN SIGHT.
	15:45:02	45	PC		I DO NOT HAVE IT IN SIGHT, GIVE ME A POSITION.
15:43:09	15:45:10	PC	45	DON'T YOU HAVE IT ON THE RADAR?	YOU DO NOT HAVE IT ON THE RADAR.
15:43:11	15:45:13	22	PC	NEGATIVE, I AM LOOKING	NEGATIVE, I AM SEARCHING.
	15:45:16	PC	45		IDENTIFY THE TARGET.
	15:45:18	45	PC		I DO NOT HAVE IT, GIVE ME A POSITION.
	15:45:21		PC		SLOW DOWN, LOOK, HE STILL DOES NOT HAVE IT IN SIGHT.
15:43:13	15:45:25	22	PC	OK, I HAVE A CONTACT SLIGHTLY TO THE RIGHT	OK, I HAVE THE TARGET A LITTLE TO THE RIGHT.
15:43:26	15:45:28	PC	22	THE CONTACT SLIGHTLY TO THE RIGHT, DISTANCE 4 KM.	TARGET TO YOUR RIGHT, DISTANCE 4 KM.
15:43:33	15:45:32	22	PC	NOW I HAVE ONE AT 8.	
15:43:36	15:45:36	PC	45	IS THE CONTACT STILL IN SIGHT 45?	DO YOU STILL HAVE THE TARGET IN SIGHT?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:43:41	15:45:41	--	--	...45	(CALLS)
		18	PC	NO YET, WAIT	
15:43:48	15:45:46	--	--	GIVE DISTANCE OF 45 ONLY	ONLY 45 IS CONSTANTLY OBSERVING THE DISTANCE.
	15:45:53	PC	45	IT IS BELOW YOU 45.	YOU HAVE IT ABOVE... BELOW YOU.
15:43:56	15:45:54	45	PC	BELOW ME?	BELOW ME?
15:43:57	15:45:57	PC	45	CLOSE TO YOUR RIGHT FOR COURSE 180, I PASS THE CONTACT.	CLIMB TO YOUR RIGHT TO COURSE 180, YOU PASSED THE TARGET.
	15:45:58	22	45	ON THE RIGHT, CLOSE.	
15:44:12	15:46:10	SAR	PC	13 WE ARE ON THE SEARCH AREA.	WE ARE NOW IN THE ZONE OF THE VESSEL.
15:44:18	15:46:11	PC	45	45...CISNE-8.	(CALLS)
15:44:18	15:46:13	45	PC	GO AHEAD	GO AHEAD.
15:44:19	15:46:15	PC	45	CORRECT, COURSE 180...45	CORRECT, COURSE 180.
15:44:23	15:46:18	45	PC	180?	UNDERSTOOD. 180?
15:44:25		PC	45	CORRECT, 180	CORRECT, 180. ALTITUDE 2?
15:44:33	15:46:30	45	PC	180, AT ALTITUDE TWO.	
	15:46:39	PC	45	CORRECT	CORRECT.
15:44:48	15:46:40	PC	45	THE CONTACT AT 12, DISTANCE 4	TARGET AT 12, DISTANCE 4.
15:44:53	15:46:48	45	PC 22	45, AT 12, COPIED, IN FORMATION?	AT 12, COPIED.
15:44:57	15:46:54	45	PC	GIVE ME THE ALTITUDE OF THE CONTACT, BOY.	GIVE ME THE ALTITUDE OF THE TARGET, BUDDY.
15:44:59	15:46:59	PC	45	I DON'T HAVE THE ALTITUDE RIGHT NOW.	I DO NOT HAVE THE ALTITUDE AT THIS MOMENT.
15:45:02		PC	45	SEARCH IT BELOW.	
15:45:03	15:46:56	22	45	LOOK UP, TO THE RIGHT, GUAL, IT PASSES US AT 90 DEGREES, DO YOU HAVE IT NOW?	ABOVE TO THE RIGHT, FIDEL, YOU PASSED IT AT 90, DO YOU HAVE IT?
15:45:11		45	22	YOU GO AHEAD, YOU GO AHEAD.	
15:45:12	15:47:07	22	45	CORRECT, I CLOSE TO THE RIGHT.	TURN TO THE RIGHT, TURN TO THE RIGHT.
15:45:15	15:47:08	22	45	GUAL, TURN TO THE RIGHT.	TURN TO THE RIGHT.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:45:20	15:47:10	22	45	CLOSE.	
15:45:23	15:47:17	PC	45	45, TELL ME THE CONTACT'S FEATURES.	TELL ME IF YOU IDENTIFY THE TARGET.
15:45:26	15:47:18	45	PC	CESSNA-337.	CESSNA 337.
15:45:28		PC	45	45 . CISNE-2, DO YOU HAVE IT IN SIGHT?	IT IS A CESSNA 337, IT IS TURNING TO THE LEFT.
15:45:31	15:47:20	22	PC	IT IS A CESSNA 337, IT IS APPROACHING FROM THE RIGHT.	
15:45:34		PC	22	CORRECT.	
15:45:35	15:47:27	22	45	KEEP ON TURNING TO THE RIGHT 45.	CONTINUE TURNING TO THE RIGHT.
15:45:38		PC	45	WHERE IS IT TURNING NOW?	WHERE IS IT TURNING NOW?
15:45:41	15:47:33	22	PC	WITH A COURSE OF ABOUT 30 DEGREES.	COURSE APPROXIMATELY 30 DEGREES.
15:45:44	15:47:36	PC	45	WITH COURSE 30. IT IS MANOEUVRING TOWARDS YOU.	...YOU MANOEUVRING?
15:45:47		45	PC	CORRECT. MANOEUVRING TO THE RIGHT... TO THE LEFT.	CORRECT. I MANOEUVRE TO THE RIGHT... TO THE LEFT.
15:45:51		PC	45	45 LET'S CHECK THE COLOUR.	I NEED TO HAVE THE COLOG IDENTIFIED.
15:45:54	15:47:43	45	PC	IT IS LIGHT BLUE.	IT IS LIGHT BLUE. CORRECT.
15:45:56		PC	45	TELL ME IF IT IS BLUE AND WHITE?	YES, LIGHT BLUE.
15:45:58		45	PC	CORRECT.	
15:45:59	15:47:49	PC	45	LIGHT BLUE?	
15:46:01	15:47:50	45	PC	YES, LIGHT BLUE.	
15:46:02		PC	45	LIGHT BLUE AND WHITE, ISN'T IT?	YOU DO NOT KNOW...
15:46:05	15:47:54	45	PC	ON THE SCREEN CISNE-8?	AND CISNE-8 DOES NOT HAVE IT ON SCREEN?
15:46:07	15:47:55	45	22	YOU DON'T HAVE IT?	DO YOU HAVE IT?
15:46:08	15:47:56	22	45	NO, WE'VE LOST IT. DID WE PASS IT?	NO, IT WAS LOST, WE PASSED IT.
	15:48:00		45		YOU LOST IT?
15:46:15		PC	45	HEY, TRY TO COPY THE REGISTRATION. THERE. 45.	
15:46:19	15:48:07	22	PC	MAINTAIN, CISNE-8...22.	(CALLS)

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		PC	22	GO AHEAD.	GO AHEAD.
15:46:23		22	PC	DO YOU HAVE IT THERE ON THE SCREEN?	YOU DON'T HAVE IT ON SCREEN?
15:46:25	15:48:09	PC	22	CORRECT.	CORRECT.
15:46:25	15:48:12	22	PC	GIVE US INDICATIONS.	GIVE ME THE SITUATION THERE.
15:46:27	15:48:18	PC	22	CONTACT 10 DEGREES TO YOUR RIGHT. DISTANCE 7 KM. START TURNING TO THE RIGHT FOR COURSE 180.	THE TARGET 10 DEGREES TO YOUR RIGHT, DISTANCE 7 KM.
	15:48:24	PC	45		BEGIN TURNING TO THE RIGHT TO COURSE 180.
15:46:35	15:48:18	22	PC	OK.	
15:46:39	15:48:22	45	PC	IS IT ABOVE OR BELOW?	180. WAS IT ABOVE OR BELOW?
15:46:41	15:48:26	22	45	IT WAS ALMOST AT THE SAME LEVEL WITH US.	IT WAS AT A DISTANCE, LEVEL WITH US.
15:46:49	15:48:29	PC	45	YOU HAVE IT 5 DEGREES TO YOUR RIGHT, 45.	YOU HAVE IT 5 DEGREES TO YOUR LEFT.
15:46:54	15:48:36	45	PC	ROGER.	UNDERSTOOD.
15:46:58	15:48:40	PC	45	AT 12.	AT 12.
15:47:02	15:48:44	45	PC	COPY AT 12.	COPIED.
15:47:04	15:48:50	22	PC	I DON'T HAVE IT IN SIGHT.	I HAVE IT IN SIGHT.
15:47:06		45	22	REPEAT.	DISTANCE?
15:47:07	15:48:52	22	45	AT 12, TWO.	AT 12, 2.
15:47:09	15:48:53	PC	45	45 TELL ME THE REGISTRATION.	I HAVE IT. GIVE ME THE REGISTRATION.
15:47:12	15:48:56	45	PC	WAIT, LET ME FIND IT FIRST.	WAIT, LET ME FIND IT FIRST.
15:47:14		22	PC	WE DON'T HAVE IT NOW.	I DO NOT HAVE IT NOW, I DO NOT HAVE IT.
15:47:17	15:48:57	PC	45	45 I PASS OVER THE CONTACT, IT IS LEAVING YOU BEHIND.	YOU PASSED OVER THE TARGET. YOU ARE LEAVING IT BEHIND.
15:47:20	15:49:00	PC	45	SEARCH FOR IT BELOW YOU, WITHIN THE TURNING RADIUS.	
15:47:41	15:49:19	PC	45	DO I COPY 45?	DID YOU COPY?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:47:42		45	PC	WHAT?	REPEAT.
15:47:44	15:49:27	PC	45	SEARCH IT WITHIN THE TURNING RADIUS, FLYING AROUND BELOW YOU.	LOOK FOR IT IN THE FIRST TURN, TURNING BELOW YOU.
15:47:48		45	PC	ROGER.	UNDERSTOOD.
15:47:52	15:49:30	PC	45	45...CISNE-2, THE CONTACT 10 DEGREES TO YOUR LEFT, DISTANCE 12 KM.	TARGET 10 DEGREES TO YOUR LEFT, DISTANCE 12 KM.
15:47:58	15:49:35	45	PC	COPIED. COURSE 360.	COPIED. COURSE 360.
15:48:00	15:49:38	PC	45	STOP HEADING 330.	END UP ON COURSE 330.
15:48:03	15:49:38	45	PC	330.	330.
15:48:07	15:49:46	22	PC	I AM GOING TO REDUCE SPEED A LITTLE, TO SEE IF I CAN CATCH IT WELL.	I AM GOING TO SLOW DOWN A BIT TO SEE IF I CAN CATCH HIM.
15:48:09	15:49:42	PC	45	END IN COURSE 270...45.	END UP ON 270, 45.
15:48:12		PC	45	45 GIVE ME THE ONE.	UNDERSTOOD, 270.
15:48:14	15:49:49	PC	45	THE CONTACT IN 270, IN SIGHT AT 12, AT 12, SIX.	TARGET 270 IN SIGHT AT 12, 6.
15:48:23	15:50:00	45	PC	45.	45.
	15:50:09	C8	45		DO YOU HAVE THE TARGET IN SIGHT?
	15:50:19	45	C8		IT IS BELOW AND AHEAD OF ME.
		C8	45		WORK.
	15:50:20	45	22		WHAT KIND?
15:48:30		43	DV	43 IN POSITION.	
		PC	45	45...CISNE-8.	
15:48:44		22	PC	LET HIM WORK, HOLD DOWN.	
15:48:47	15:50:22	PC	45	DO YOU ALREADY HAVE IT?	DO YOU HAVE IT?
	15:50:26	22	45	YES, I GOT IT. TURN TO YOUR RIGHT.	YES, I HAVE IT.
	15:50:28	--	--	...45, TO THE LEFT.	TURN LEFT. 30 LEFT.
15:49:07	15:50:38	22	45	IT IS TURNING TO THE LEFT.	IT IS TURNING LEFT. FOLLOW IT.

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15:49:13	15:50:45	22	45	RIGHT THERE. STOP BANKING.	COME OUT OF YOUR BANK. WAIT, IT'S THAT WHEN YOU APPROACH IT THAT WAY, OK, IT IS MANOEUVRING.
15:49:19		PC	45	2945 TRY TO SEE THE REGISTRATION RIGHT THERE.	
15:49:22		22	PC	WAIT, WE HAVE TO COME CLOSER FIRST, IT IS MANOEUVRING.	
15:49:25		18	22	DON'T YOU HAVE IT? DON'T YOU HAVE IT?	
15:49:26		22	18	NO, ALREADY NOT.	
15:49:30		PC	18	HEY 18, LET'S SEE IF YOU CAN GET THE REGISTRATION...	
15:49:35		22	PC	LET'S COME CLOSER FIRST, IT IS MANOEUVRING, IT IS NOT THAT EASY.	NO, AND YOU? ... BREAK OFF INTERCEPT FIRST, BUT IT IS MANOEUVRING WELL.
15:49:43		18	PC	GIVE US THE POSITION.	GIVE ME THE POSITION.
15:49:47		22	PC	CISNE-8 .. 22.	(CALLS)
15:49:49	15:51:16	PC	22	GO AHEAD 22.	GO AHEAD.
15:49:50		22	PC	GIVE US SOMETHING, GIVE US INDICATIONS	GOING. GIVE ME INSTRUCTIONS.
15:49:52	15:51:19	PC	22	CORRECT, THE CONTACT IS BEHIND YOU, TO YOUR LEFT, COURSE 180.	CORRECT, THE TARGET IS BEHIND YOU, TO YOUR LEFT, COURSE 180. .. NO IT IS BEHIND.
15:49:58		22	PC	OK.	
15:50:02		22	45	45, REDUCE SPEED A LITTLE, TO BE ABLE TO CLOSE THEM, OTHERWISE...	DROP YOUR SPEED A LITTLE BECAUSE ... YOU ARE WITH THEM, RIGHT?
15:50:08	15:51:30	PC	45	45, HOW MANY AIRPLANES DO YOU HAVE? ONE OR TWO?	HOW MANY TARGETS DO YOU HAVE? ONE OR TWO?
15:50:11	15:51:33	45	PC	JUST ONE.	ONLY ONE.
15:50:12	15:51:37	PC	45	CORRECT, DID YOU INFORM ME THAT THE COLOG WAS BLUE?	CORRECT, TYPE OF AIRCRAFT, BLUE, COLOG?
15:50:15	15:51:39	45	PC	LIGHT BLUE AND WHITE... CESSNA-337	LIGHT BLUE AND WHITE.
		PC	45		REPORT
		45	PC		CESSNA 337

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:50:28	15:51:52	PC	45	TELL ME 45, THE REGISTRATION, TELL ME, TELL ME, I AM WAITING FOR YOU.	GIVE ME THE REGISTRATION.
15:50:32		PC	45	CONTACT TO THE LEFT, DISTANCE 4.	TARGET TO THE LEFT, DISTANCE FOUR.
	15:52:00	45	PC		IN SIGHT, ALTITUDE AT THIS MOMENT.
15:50:35		45	PC	45.	
15:50:42		18	22	THE CONTACT AT WHAT ALTITUDE?	AT WHAT ALTITUDE IS THE TARGET?
15:50:44		22	18	MORE OR LESS AT AN ALTITUDE OF TWO THOUSAND, SOMETHING LIKE THAT.	MORE OR LESS 2000 METERS.
15:50:49		PC	45	IN FRONT OF THE CONTACT.	TARGET IN FRONT, YOU HAVE IT FIVE DEGREES TO YOUR LEFT AND AHEAD.
15:50:52	15:52:10	PC	45	YOU HAVE IT 5 DEGREES TO THE LEFT OF YOU.	
15:50:55		45	PC	45.	
15:51:10		45	PC	STILL IN FRONT?	
15:51:16		22	PC	KEEP ON GIVING INDICATIONS...CISNE.	GO AHEAD WITH INSTRUCTIONS, GO AHEAD.
15:51:21		22	PC	CISNE-8...22.	INSTRUCTIONS?
15:51:25	15:52:43	22	45	YOU GOT IT?	DO YOU HAVE IT?
15:51:28	15:52:47	22	45	...I AM GOING TO PASS AROUND...	NO, I AM GOING TO TURN AND PASS THROUGH THERE.
15:51:36	15:52:54	PC	45	45...CISNE-8.	
15:51:38		45	PC	GO AHEAD.	
15:51:39	15:52:57	PC	45	DO YOU SEE THE REGISTRATION?	DO YOU SEE THE REGISTRATION?
15:51:42	15:53:01	22	PC	GIVE US INDICATIONS, WE STILL CANNOT REACH IT.	GO AHEAD WITH INSTRUCTIONS VERY HIGH THERE.
15:51:44	15:53:02	PC	22	CORRECT.	CORRECT.
15:51:52	15:53:10	18	PC	GIVE US INDICATIONS, INDICATIONS.	MORE INSTRUCTIONS, INSTRUCTIONS.
15:51:58	15:53:14	PC	45	45 STOP MISSION, WE'RE COMING BACK HOME.	SUSPEND THE MISSION.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
15:52:01	15:53:16	45	PC	COPIED. STOP MISSION.	COPIED. SUSPEND THE MISSION.
15:52:03	15:53:19	PC	45	2945...CISNE-2.	
15:52:07	15:53:21	45	PC	ROGER.	ROGER.
15:52:07	15:53:30	PC	45	2945...CISNE-2.	(CALLS)
15:52:18	15:53:33	45	PC	LOUD AND CLEAR, GO AHEAD.	LOUD AND CLEAR, GO AHEAD.
15:52:21		PC	45	CORRECT, LOOK, MAINTAINING ALTITUDE 3000, KEEP 15 KM OFF THE COAST, TO THE LEFT, TO GET IN THROUGH MARIEL. TELL ME THE ONE.	DISTANCE.
		45	PC		HAS IT.
		PC	45		YOU HAVE THE TARGET TO YOUR LEFT, DISTANCE FOUR KM. FROM YOU
		45	PC		GO AHEAD.
		PC	45		PARALLEL, OPPOSITE, HEADING? TO BEHIND YOU. WHAT IS YOUR FUEL REMAINDER.
					TO THE LEFT.
		45	PC		FUEL REMAINDER 23.
		45	72		WHAT IS IT?
		45	72		(CALLS)
		45	72		WHAT IS IT?
		72	45		NEGATIVE, I AM IN THE ZONE BUT I DON'T SEE ANYTHING. ... MERCHANT VESSEL STEAMING ON COURSE 90 TOWARD THERE. WE ARE HERE. THE TANKER ON COURSE 270 MAKING... BUT NOTHING.
		PC	45		(CALLS)
		45	PC		HE SAYS HE HAS NOTHING.
		PC	45		CORRECT. THE TARGET IS MANOEUVRING BEHIND, LET'S RETURN TO HOME FIELD. TO YOUR LEFT, COURSE 210. GIVE ME FUEL REMAINDER.
		45	PC		FUEL REMAINDER 23.

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		PC	45		MAINTAIN COURSE 270, 15 KM OFF THE COAST TO THE LEFT, ALTITUDE 2000 METERS.
		45	PC		COURSE 270.
		PC	45		CALL THE HELO.
		72	PC		GO AHEAD.
		PC	72		TELL ME IF YOU ARE OVER THE TARGET.
		45	PC		HE SAYS HE DOES NOT HAVE THE TARGET, THAT THEY SEE NOTHING THERE. DO YOU COPY ME?
		PC	45		CORRECT, I COPIED YOU. DOES HE SAY HE IS STILL IN THE SEARCH ZONE?
		45	PC		CORRECT, HE IS IN THE SEARCH ZONE.
		45	22		IN VIEW.
		45	72		YOU DON'T SEE ANYTHING?
		45	72		NOTHING?
		72	45		NEGATIVE, I AM BEHIND THE BOAT.
		45	72		ARE YOU HERE THE ZONE?
		451	452		OK, WE ARE RETURNING.
		45	72		IN WHAT ZONE ARE YOU?
		72	45		NORTH OF ESPERON.
		72	45		NO, I AM STAYING WITH MIG-23 #2 AND MIG-23 #1. ... 260. (PAUSE) ROGER, GOING TO COURSE 270. ... ALL I HAVE THERE NOW IS A BOAT.
		45	72		GC #2 IS CALLING YOU.
		72	CG		GO AHEAD.
		45	PC		THE 72O IS RESPONDING.
		45	72		THERE IS NOTHING?
		72	45		NEGATIVE, I AM NOW YOUR SAILBOAT IS HERE, COMING TOWARD THE COAST.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		45	72		ROGER. HOW FAR FROM THE COAST ARE YOU AT THIS MOMENT?
		72	45		SOME SEVEN OR EIGHT KILOMETERS.
		PC	45		AND HE DOES NOT HAVE ANYTHING AT THE LOCATION?
		45	PC		THAT'S CORRECT, THEY HAVE IN SIGHT A LARGE WHICH IS.
		45	PC		HE IS RECONNOITRING A NAVY VESSEL, THOSE PEOPLE.
		45	PC		IT IS A PASSENGER BOAT, CORRECT?
		45	45		TO OUR RIGHT.
		45	PC		ROGER, I HAVE A LARGE BOAT IN VIEW, TO MY RIGHT.
		45	45		IT IS A PASSENGER BOAT.
		45	PC		PULLING OUT, COURSE 210.
		C2	45		LISTEN, CALL 29 720 AND TELL HIM TO GO TO CHANNEL FOUR TO SEE IF HE CAN MAKE CONTACT WITH THE NAVY PEOPLE.
		45	72		(CALLS)
		45	45		THERE IS ANOTHER SMALL VESSEL HERE.
		45	PC		(CALLS)
		45	PC		A SMALL BOAT IN VIEW, TO MY LEFT 90 DEGREES.
		72	45		NEGATIVE CONTACT WITH THE NAVY.
		45	PC		NEGATIVE CONTACT WITH THE NAVY.
		45	PC		YOU AUTHORIZE ME TO RECONNOITER A SMALL BOAT THAT IS TO THE RIGHT.
		72	PC		LISTEN, THERE IS A SMALL BLUE BOAT THERE THAT IS ON COURSE 110 DEGREES, WE ARE GOING BEHIND TO SEE IF WE CAN SEE SOMETHING
		45	PC		(CALLS)

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		45	45		IT IS A SAILBOAT THERE.
		45	45		YES, IN SIGHT.
		PC	45		(CALLS)
		45	PC		(REQUEST) YOU AUTHORIZE RECONNAISSANCE OF A BOAT THAT I HAVE HERE.
		PC	45		ALTITUDE 3000?
		45	PC		ALTITUDE 3000 METERS.
		PC	45		CORRECT, AUTHORIZED.
		45	45		OK, I AM GOING TO CONDUCT THE RECONNAISSANCE NOW.
		45	45		REPEAT.
		45	45		DESCENDING.
		45	45		ROGER.
		45	PC		WHAT ALTITUDE DOES HE MAINTAIN? (PAUSE) COPIED.
		PC	45		FUEL REMAINDER?
		45	PC		FUEL REMAINDER 19.
		45	45		DO YOU HAVE IT?
		45	45		OK, IT IS A SMALL SAILBOAT, BUT NO, IT DOES NOT HAVE ANYTHING ON TOP.
		45	45		WHAT DO YOU HAVE?
		45	45		NO, THE SAILBOAT DOES NOT HAVE ANYTHING ON TOP.
					IT IS PASSIVE.
		45	45		ROGER, THE SAILBOAT HAS NOTHING ON TOP, IT IS PASSIVE.
		PC	45		LET'S DO A RECONNAISSANCE MORE TO THE NORTH OF MARIEL.
		45	PC		NORTH OF MARIEL.
		PC	45		TELL ME, CONTACT THE 720 AND TELL HIM TO SEE IF A LAUNCH OF OUR IS LYING TO IN THAT ZONE.
		45	72		DO YOU HAVE ONE OF OUR NAVY LAUNCHES?
		45	72		IF YOU HAVE ONE OF OUR NAVY LAUNCHES IN SIGHT THERE.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		72	45		NEGATIVE.
		PC	45		I COPIED HIM, THAT IT'S NEGATIVE?
		45	PC		NEGATIVE.
		PC	45		LET'S APPROACH DIRECTLY TO THE NORTH OF MARIEL AND MAINTAIN ALTITUDE 3200 ABOVE THE HELICOPTER AND INFORM ME WHEN YOU HAVE FUEL REMAINDER 12. ECONOMICAL SPEED.
		PC	45		ARE YOU TWO MAINTAINING VISUAL...
		45	PC		CORRECT, AUTHORIZE ALTITUDE 2000.
		PC	45		ROGER, ALTITUDE 2000.
		PC	45		DO YOU STILL HAVE IT IN SIGHT?
		45	PC		ROGER, ALTITUDE 2000.
		PC	45		TARGET.
		45	PC		NEGATIVE, RECONNOITRING THE BOAT HERE.
		45	PC		IN THE REGION WHERE I AM, THERE IS A BOAT, IT APPEARS TO BE A FISHING BOAT, IT IS WHITE AND ORANGE AND IS ON A NORTHERLY COURSE, IT IS ABOUT 25 (KM) FROM THE COAST.
		PC	45		WHAT IS YOUR POSITION?
		45	PC		25 KM NORTH OF HAVANA.
		72	PC		WE ARE NORTH OF...
		45	45		MAINTAIN ALTITUDE.
		45	45		OK, I AM 25 KM NORTH OF HAVANA, AT ALTITUDE 2500.
		72	45		DO YOU HAVE THE TANKER?
		45	72		NEGATIVE, NO. WHAT I HAVE IS THE OTHER VESSEL.
		45	PC		GO AHEAD. ... FUEL REMAINDER 17.
		45	72		OK, I NOW HAVE THE TANKER.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		45	45		ROGER, DESCENDING TO ALTITUDE 2000.
		72	45		THERE IS ANOTHER TANKER ON COURSE 270.
		PC	45		LET'S FOLLOW THE COAST, CLIMBING TO ALTITUDE 4000 METRES.
		45	45		(CALLS)
		PC	45		YOU NEAR THE COAST, GO TO ALTITUDE 2000.
		45	PC		ROGER.
		PC	45		GIVE YOUR POSITION.
		45	PC		FOUR FROM MARIEL.
		PC	45		OVER MARIEL?
		45	PC		FOUR FROM MARIEL.
		PC	45		NEAR MARIEL, ALTITUDE 2000, FUEL REMAINDER?
		45	PC		FUEL REMAINDER.
		72	45		(CALLS)
		PC	45		ASK THE HELO ... POSITION.
		72	45		POSITION?
		72	45		WEST OF THE TANKER, NORTHWEST OF THE TANKER, 100 METERS.
		45	45		OVER A TANKER.
		PC	45		AFFIRMATIVE. THAT IS COMING ON COURSE 270, THAT IS NORTH OF ESPERON.
		45	PC		ROGER, SEVERAL KILOMETERS NORTH OF ESPERON.
		72	45		WE ARE SOME 15 KILOMETERS FROM ESPERON. LISTEN, TRY TO HAVE GC INDICATE TO WHAT LOCATION.
		45	72		LISTEN, THE GC IS NOT HERE, HE IS THERE.
		45	PC		THE HELO IS SOME KILOMETERS NORTH OF ESPERON.
		PC	45		ALTITUDE?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		45	PC		ALTITUDE 1500 CLIMBING TO 2000.
		PC	45		HE IS NOW COMING TO HOME FIELD?
		45	PC		CORRECT.
		PC	45		FUEL REMAINDER?
		45	PC		FUEL REMAINDER 13.
		PC	45		15?
		45	PC		13.
		72	45		GO AHEAD.
		45	72		NOT YOU, FUEL REMAINDER.
		45	72		(CALLS)
		45	45		GOING HOME.
		55	45		FUEL REMAINDER 12.9.
		45	PC		OVER THE TANKER NOW.
		72	PC		NORTH OF THE TANKER, THREE KILOMETERS.
		45	72		THAT I AM OVER THE TANKER AT THIS TIME.
		72	PC		DESCENDING FOR FIVE METERS.
		PC	72		POSITION.
		45	PC		WE ARE NORTH OF CAYO SALADO SOME 15 KILOMETERS. 1500 METERS. IN VIEW, TWO BORDER GUARD LAUNCHES AT THIS TIME.
		45	PC		IN THE FOURTH.
		45	PC		CORRECT. BUT THEY ARE FAR AWAY.
		PC	45		LET'S.
		45	PC		OK. I AM HEADING FOR MARIEL.
		PC	45		BREAK.
		45	PC		AUTHORIZE ME.
		PC	45		CHECK YOUR...
		PC	45		(CALLS)
		45	PC		GO AHEAD. GO AHEAD.
		PC	45		POSITION?

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		45	PC		AT THIS MOMENT, IN MARIEL. RETURNING.
		PC	45		CORRECT. CHECK THE RADIO.
		45	PC		YOU MEAN ME?
		PC	45		LOUD AND CLEAR.
		45	PC		OK. COPIED.
		PC	45		GIVE ME YOUR ALTITUDE.
		45	PC		1500.
		PC	45		CORRECT. FOR YOUR INFORMATION, I HAVE THE NEXT THIRD... TO MIG-23 #1.
		45	PC		COPIED.
		PC	72		POSITION?
		45	PC		HE IS NORTH OF THE TANKER. ... IS THERE ANY INSTRUCTION FOR THE HELO?
		72	45		REPEAT?
		45	72		NO. WITH CISNE2
		45	PC		THIRD, FLAPS, LANDING GEAR AND FLAPS, AIR NORMAL.
		PC	45		WIND CALM.
		PC	45		(CALLS)
		45	PC		GO AHEAD.
		PC	45		RETURNING, RETURN TO HOME FIELD.
		45	PC		CORRECT, I AM RETURNING.
		PC	45		(CALLS)
		45	PC		GO AHEAD.
		PC	45		POSITION?
		45	PC		PASSING THE MOUNTAIN RANGE.
		PC	45		PASSING?
		45	PC		BETWEEN GUANAJAY AND ARTEMISA.
		PC	45		AH, GUANAJAY AND ARTEMISA.
		45	PC		CORRECT.
		45	PC		FLAPS DOWN AND LOCKED.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		PC	45		CONTINUE.
		PC	72		(CALLS)
		72	PC		GO AHEAD.
		PC	72		TELL ME FUEL REMAINDER.
		72	PC		I HAVE FUEL REMAINDER 19.
		PC	72		I HAVE FUEL REMAINDER 19.
		72	PC		AFFIRMATIVE.
		45	PC		IN THE FOURTH, 1200.
		PC	45		600...
		45	PC		I AM GOING DIRECTLY.
		45	PC		FLAPS COMPLETE.
		PC	72		POSITION?
		72	PC		NORTH OF MARIEL, SOME SEVEN KILOMETERS NORTH OF MARIEL.
		PC	72		POSITION EXACTLY.
		72	PC		FIVE KILOMETERS NORTH OF MARIEL. COURSE 90.
		45	PC		LANDING GEAR, FLAPS FOUR GREEN.
		PC	45		OK, WIND CALM, CONTINUE.
		PC	72		RETURN TO HOME FIELD, ALTITUDE 200 METERS.
		72	PC		(ACKS)
		PC	45		(XG)
		PC	72		(CALLS)
		PC	72		(CALLS)
		72	PC		GO AHEAD.
		PC	72		GIVE ME YOUR POSITION.
		72	PC		AT THE MOMENT WE ARE NORTH OF BARACOA.
		PC	72		ROGER.
		72	PC		60 DEGREES. .. NEGATIVE, I DID NOT COPY IT. ... GO AHEAD. ... TO BEACON 200.
		72	PC		OVER BARACOA. OVER BARACOA.

TIME (CUBAN RECORDING)	TIME (UNITED STATES RECORDING)	From	To	Transmission (Text provided by Cuba)	Transmission (Text provided by the United States)
		PC	72		OK.
		72	PC		OVER NORTH OF THE FIELD.

E. EXTRACTS FROM ANNEX 2 TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION

APPENDIX 1. SIGNALS

(Note.— See Chapter 3, 3.4 of the Annex)

. . .

2. SIGNALS FOR USE IN THE EVENT OF INTERCEPTION

2.1 Signals initiated by intercepting aircraft and responses by intercepted aircraft

Series	*INTERCEPTING Aircraft Signals*	*Meaning*	*INTERCEPTED Aircraft Responds*	*Meaning*
1	DAY or NIGHT — Rocking aircraft and flashing navigational lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left, (or to the right in the case of a helicopter) on the desired heading. *Note 1.— Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1.* *Note 2.— If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock the aircraft each time it passes the intercepted aircraft.*	You have been intercepted. Follow me.	DAY or NIGHT — Rocking aircraft, flashing navigational lights at irregular intervals and following. *Note.— Additional action required to be taken by intercepted aircraft is prescribed in Chapter 3, 3.8.*	Understood, will comply.

2	DAY or NIGHT — An abrupt break-away manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	DAY or NIGHT — Rocking the aircraft.	Understood, will comply.
3	DAY or NIGHT — Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to hover near to the landing area.	Land at this aerodrome.	DAY or NIGHT — Lowering landing gear, (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.	Understood, will comply.

2.2 Signals initiated by intercepted aircraft and responses by intercepting aircraft

Series	*INTERCEPTING Aircraft Signals*	*Meaning*	*INTERCEPTED Aircraft Responds*	*Meaning*
4	DAY or NIGHT — Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1 000 ft) but not exceeding 600 m (2 000 ft) (in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft)) above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT — If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses the Series 1 signals prescribed for intercepting aircraft. If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, follow me. Understood, you may proceed.
5	DAY or NIGHT — Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6	DAY or NIGHT — Irregular flashing of all available lights.	In distress.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.

ATTACHMENT A. INTERCEPTION OF CIVIL AIRCRAFT

(Note.— See Chapter 3, 3.8 of the Annex and associated Note)

Note.— In the interest of completeness, the substance of the provisions in Appendix 2 to the Annex is incorporated in this Attachment.

1. In accordance with Article 3 d) of the Convention on International Civil Aviation the Contracting States of ICAO "undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft". As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council of ICAO has formulated the following special recommendations which Contracting States are urged to implement through appropriate regulatory and administrative action. The uniform application by all concerned is considered essential in the interest of safety of civil aircraft and their occupants. For this reason the Council of ICAO invites Contracting States to notify ICAO of any differences which may exist between their national regulations or practices and the special recommendations hereunder.

2. General

2.1 Interception of civil aircraft should be avoided and should be undertaken only as a last resort. If undertaken, the interception should be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome. Practice interception of civil aircraft is not to be undertaken.

2.2 To eliminate or reduce the need for interception of civil aircraft, it is important that:

a) all possible efforts be made by intercept control units to secure identification of any aircraft which may be a civil aircraft, and to issue any necessary instructions or advice to such aircraft, through the appropriate air traffic services units. To this end, it is essential that means of rapid and reliable communications between intercept control units and air traffic services units be established and that agreements be formulated concerning exchanges of information between such units on the movements of civil aircraft, in accordance with the provisions of Annex 11;

b) areas prohibited to all civil flights and areas in which civil flight is not permitted without special authorization by the State be clearly promulgated in aeronautical information publications (AIP) in accordance with the provisions of Annex 15, together with the risk, if any, of interception in the event of penetration of such areas. When delineating such areas in close proximity to promulgated ATS routes, or other frequently used tracks, States should take into account the availability and over-all systems accuracy of the navigation systems to be used by civil aircraft and their ability to remain clear of the delineated areas;

c) the establishment of additional navigation aids be considered where necessary to ensure that civil aircraft are able safely to circumnavigate prohibited or, as required, restricted areas.

2.3 To eliminate or reduce the hazards inherent in interceptions undertaken as a last resort, all possible efforts should be made to ensure co-ordinated actions by the pilots and ground units concerned. To this end, it is essential that Contracting States take steps to ensure that:

a) all pilots of civil aircraft be made fully aware of the actions to be taken by them and the visual signals to be used, as specified in Chapter 3 and Appendix 1 of this Annex;

b) operators or pilots-in-command of civil aircraft implement the provisions in Annex 6, Parts I, II and III regarding the capability of aircraft to communicate on 121.5 MHz and the availability of interception procedures and visual signals on board aircraft;

c) all air traffic services personnel be made fully aware of the actions to be taken by them in accordance with the provisions of Annex 11, Chapter 2 and the PANS-RAC (Doc 4444);

d) all pilots-in-command of intercepting aircraft be made aware of the general performance limitations of civil aircraft and of the possibility that intercepted civil aircraft may be in a state of emergency due to technical difficulties or unlawful interference;

e) clear and unambiguous instructions be issued to intercept control units and to pilots-in-command of potential intercepting aircraft, covering interception manoeuvres, guidance of intercepted aircraft, action by intercepted aircraft, air-to-air visual signals, radiocommunication with intercepted aircraft, and the need to refrain from resorting to the use of weapons;

Note.— See paragraphs 3 to 8.

f) intercept control units and intercepting aircraft be provided with radiotelephony equipment compatible with the technical specifications of Annex 10, Volume I so as to enable them to communicate with intercepted aircraft on the emergency frequency 121.5 MHz;

g) secondary surveillance radar facilities be made available to the extent possible to permit intercept control units to identify civil aircraft in areas where they might otherwise be intercepted. Such facilities should permit recognition of discrete four-digit codes in Mode A, including immediate recognition of Mode A, Codes 7500, 7600 and 7700.

3. Interception manoeuvres

3.1 A standard method should be established for the manoeuvring of aircraft intercepting a civil aircraft in order to avoid any hazard for the intercepted aircraft. Such method should take due account of the performance limitations of civil aircraft, the need to avoid flying in such proximity to the intercepted aircraft that a collision hazard may be created and the need to avoid crossing the aircraft's flight path or to perform any other manoeuvre in such a manner that the wake turbulence may be hazardous, particularly if the intercepted aircraft is a light aircraft.

3.2 Manoeuvres for visual identification

The following method is recommended for the manoeuvring of intercepting aircraft for the purpose of visually identifying a civil aircraft:

Phase I

The intercepting aircraft should approach the intercepted aircraft from astern. The element leader, or the single intercepting aircraft, should normally take up a position on the left (port) side, slightly above and ahead of the intercepted aircraft, within the field of view of the pilot of the intercepted aircraft, and initially not closer to the aircraft than 300 m. Any other participating aircraft should stay well clear of the intercepted aircraft, preferably above and behind. After speed and position have been established, the aircraft should, if necessary, proceed with Phase II of the procedure.

Phase II

The element leader, or the single intercepting aircraft, should begin closing in gently on the intercepted aircraft, at the same level, until no closer than absolutely necessary to obtain the information needed. The element leader, or the single intercepting aircraft, should use caution to avoid startling the flight crew or the passengers of the intercepted aircraft, keeping constantly in mind the fact that manoeuvres considered normal to an intercepting aircraft may be considered hazardous to passengers and crews of civil aircraft. Any other participating aircraft should continue to stay well clear of the intercepted aircraft. Upon completion of identification, the intercepting aircraft should withdraw from the vicinity of the intercepted aircraft as outlined in Phase III.

Phase III

The element leader, or the single intercepting aircraft, should break gently away from the intercepted aircraft in a shallow dive. Any other participating aircraft should stay well clear of the intercepted aircraft and rejoin their leader.

3.3 Manoeuvres for navigational guidance

3.3.1 If, following the identification manoeuvres in Phase I and Phase II above, it is considered necessary to intervene in the navigation of the intercepted aircraft, the element leader, or the single intercepting aircraft, should normally take up a position on the left (port) side, slightly above and ahead

of the intercepted aircraft, to enable the pilot-in-command of the latter aircraft to see the visual signals given.

3.3.2 It is indispensable that the pilot-in-command of the intercepting aircraft be satisfied that the pilot-in-command of the intercepted aircraft is aware of the interception and acknowledges the signals given. If repeated attempts to attract the attention of the pilot-in-command of the intercepted aircraft by use of the Series 1 signal in Appendix 1, Section 2 are unsuccessful, other methods of signalling may be used for this purpose, including as a last resort the visual effect of the reheat/afterburner, provided that no hazard is created for the intercepted aircraft.

3.4 It is recognized that meteorological conditions or terrain may occasionally make it necessary for the element leader, or the single intercepting aircraft, to take up a position on the right (starboard) side, slightly above and ahead of the intercepted aircraft. In such case, the pilot-in-command of the intercepting aircraft must take particular care that the intercepting aircraft is clearly visible at all times to the pilot-in-command of the intercepted aircraft.

4. Guidance of an intercepted aircraft

4.1 Navigational guidance and related information should be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established.

4.2 When navigational guidance is given to an intercepted aircraft, care must be taken that the aircraft is not led into conditions where the visibility may be reduced below that required to maintain flight in visual meteorological conditions and that the manoeuvres demanded of the intercepted aircraft do not add to already existing hazards in the event that the operating efficiency of the aircraft is impaired.

4.3 In the exceptional case where an intercepted civil aircraft is required to land in the territory overflown, care must also be taken that:

a) the designated aerodrome is suitable for the safe landing of the aircraft type concerned, especially if the aerodrome is not normally used for civil air transport operations;

b) the surrounding terrain is suitable for circling, approach and missed approach manoeuvres;

c) the intercepted aircraft has sufficient fuel remaining to reach the aerodrome;

d) if the intercepted aircraft is a civil transport aircraft, the designated aerodrome has a runway with a length equivalent to at least 2 500 m at mean sea level and a bearing strength sufficient to support the aircraft; and

e) whenever possible, the designated aerodrome is one that is described in detail in the relevant aeronautical information publication.

4.4 When requiring a civil aircraft to land at an unfamiliar aerodrome, it is essential that sufficient time be allowed it to prepare for a landing, bearing in mind that only the pilot-in-command of the civil aircraft can judge the safety of the landing operation in relation to runway length and aircraft mass at the time.

4.5 It is particularly important that all information necessary to facilitate a safe approach and landing be given to the intercepted aircraft by radiotelephony.

5. Action by intercepted aircraft

The Standards in Appendix 2, Section 2 specify as follows:

"2.1 An aircraft which is intercepted by another aircraft shall immediately:

a) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in Appendix 1;

b) notify, if possible, the appropriate air traffic services unit;

c) attempt to establish radiocommunication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;

d) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

"2.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

"2.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft."

6. Air-to-air visual signals

The visual signals to be used by intercepting and intercepted aircraft are those set forth in Appendix 1 to this Annex. It is essential that intercepting and intercepted aircraft adhere strictly to those signals and interpret correctly the signals given by the other aircraft, and that the intercepting

aircraft pay particular attention to any signals given by the intercepted aircraft to indicate that it is in a state of distress or urgency.

7. Radiocommunication between the intercept control unit or the intercepting aircraft and the intercepted aircraft

7.1 When an interception is being made, the intercept control unit and the intercepting aircraft should:

a) first attempt to establish two-way communication with the intercepted aircraft in a common language on the emergency frequency 121.5 MHz, using the call signs "INTERCEPT CONTROL", "INTERCEPTOR (call sign)" and "INTERCEPTED AIRCRAFT" respectively; and

b) failing this, attempt to establish two-way communication with the intercepted aircraft on such other frequency or frequencies as may have been prescribed by the appropriate ATS authority, or to establish contact through the appropriate ATS unit(s).

7.2 If radio contact is established during interception but communication in a common language is not possible, attempts must be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table A-1 and transmitting each phrase twice.

8. Refraining from the use of weapons

Note.— In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis to the Convention on International Civil Aviation, the Contracting States have recognized that "every State must refrain from resorting to the use of weapons against civil aircraft in flight."

The use of tracer bullets to attract attention is hazardous, and it is expected that measures will be taken to avoid their use so that the lives of persons on board and the safety of aircraft will not be endangered.

9. Co-ordination between intercept control units and air traffic services units

It is essential that close co-ordination be maintained between an intercept control unit and the appropriate air traffic services unit during all phases of an interception of an aircraft which is, or might be, a civil aircraft, in order that the air traffic services unit is kept fully informed of the developments and of the action required of the intercepted aircraft.

Table A-1

Phrases for use by INTERCEPTING aircraft			*Phrases for use by INTERCEPTED aircraft*		
Phrase	*Pronunciation*[1]	*Meaning*	*Phrase*	*Pronunciation*	*Meaning*
CALL SIGN	KOL SA-IN	What is your call sign?	CALL SIGN	KOL SA-IN	My call sign is (call sign)
FOLLOW	FOL-LO	Follow me	(call sign)[2]	(call sign)	
DESCEND	DEE-SEND	Descend for landing	WILCO	VILL-KO	Understood Will comply
YOU LAND	YOU LAAND	Land at this aerodrome	CAN NOT	KANN NOTT	Unable to comply
PROCEED	PRO-SEED	You may proceed	REPEAT	REE-PEET	Repeat your instruction
			AM LOST	AM LOSST	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK[3]	HI-JACK	I have been hijacked
			LAND	LAAND	I request to land at
			(place name)	(place name)	(place name)
			DESCEND	DEE-SEND	I require descent

1. *In the second column, syllables to be emphasized are underlined.*
2. *The call sign required to be given is that used in radiotelephony communications with air traffic services units and corresponding to the aircraft identification in the flight plan.*
3. *Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".*

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F. EXTRACT FROM AERONAUTICAL INFORMATION PUBLICATION CUBA

PROCEDIMIENTOS DE INTERCEPTACION DE AERONAVES CIVILES

1 INTRODUCCION

1.1 La interceptación se llevará a cabo como último recurso para la identificación de las aeronaves, a fin de salvaguardar la soberanía del espacio aéreo de la República de Cuba, en las siguientes circunstancias:

a) Cuando se vuele el espacio aéreo sobre el territorio nacional y aguas territoriales (límite interior de la ADIZ), sin permiso previo o sin haberse establecido comunicación al momento de penetrar el FIR/CTA (límite exterior de la ADIZ), con el propósito de identificarse.

b) Cuando las aeronaves violen las restricciones del espacio aéreo o cuando no se ajusten al permiso del Plan de Vuelo recibido.

c) Cuando seá necesario investigar la identidad de una aeronave.

INTERCEPTION PROCEDURES OF CIVIL AIRCRAFT

1 INTRODUCTION

1.1 Interception will be carried out as a final recurrence for aircraft identification in order to protect the sovereignty of the airspace of the Republic of Cuba, under the following circumstances:

a) When aircraft overflying the national territory and its territorial waters (ADIZ interior limit), without previous permit or when aircraft having not established communications immediately after break in the FIR/CTA (ADIZ exterior limit), for identification purposes.

b) When aircraft infringe restrictions of the airspace or when they do not go back on the flight plan received accordingly.

c) When it would be necessary to inquire into an aircraft identification.

2 MANIOBRAS DE INTERCEPTACION

2.1 Maniobras para la identificación visual

2.1.1 Para las maniobras de la aeronave interceptora cuyo objetivo sea identificar visualmente una aeronave civil se aplicará el método siguiente:

Fase I

La aeronave interceptora deberá aproximarse a la aeronave interceptada por detrás. La aeronave interceptora principal, o la única aeronave interceptora, deberá normalmente situarse a la izquierda (a babor), ligeramente por encima y por delante de la aeronave interceptada, dentro del campo de visión del piloto de ésta e inicialmente a no menos de 300 m de la aeronave. Cualquier otra aeronave participante deberá quedar bien apartada de la aeronave interceptada, preferiblemente por encima y por detrás. Una vez establecidas la velocidad y la posición, la aeronave deberá, si fuera necesario, proseguir con la Fase II del procedimiento.

Fase II

La aeronave interceptora principal, o la única aeronave interceptora, deberá comenzar a aproximarse lentamente a la aeronave interceptada, al mismo nivel, sin aproximarse más de lo absolutamente necesario, para obtener la información que se necesita. La aeronave interceptora principal o la única aeronave interceptora, deberá tomar precauciones para evitar el sobresalto de la tripulación de vuelo o de los pasajeros de la aeronave interceptada, teniendo siempre presente que las maniobras consideradas como normales para una aeronave interceptora pueden ser consideradas como peligrosas para los pasajeros y la tripulación de una aeronave civil. Cualquier otra aeronave participante deberá continuar bien apartada de la aeronave interceptada. Una vez completada la identificación, la aeronave interceptora deberá retirarse de la proximidad de la aeronave interceptada, como se indica en la Fase III.

2 INTERCEPTION MANOEUVRES

2.1 Manoeuvres for visual identification

2.1.1 The following method will be apply for the manoeuvring of intercepting aircraft for the purpose of visually identifying a civil aircraft:

Phase I

The intercepting aircraft must approach the intercepted aircraft from astern. The element leader, or the single intercepting aircraft, must normally take up a position on the left (port) side, slightly above and ahead of the intercepted aircraft, within the field of view of the pilot of the intercepted aircraft, and initially not closer to the aircraft than 300 m. Any other participating aircraft must stay well clear of the intercepted aircraft, preferably above and behind. After speed and position have been established, the aircraft must, if necessary, proceed with Phase II of the procedure.

Phase II

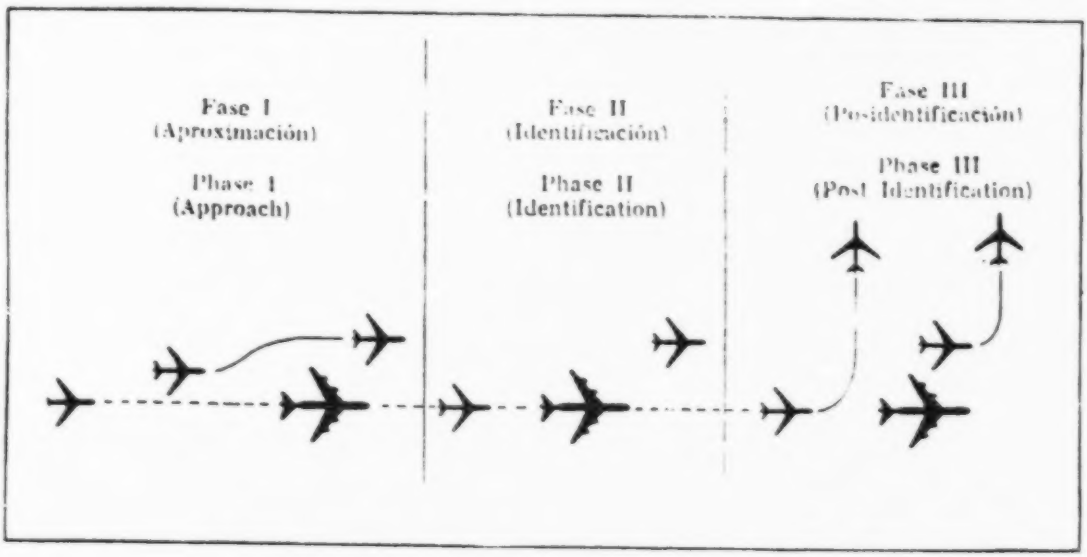
The element leader, or the single intercepting aircraft, must begin closing in gently on the intercepted aircraft, at the same level, until no closer than absolutely necessary to obtain the information needed. The element leader, or the single intercepting aircraft, must use caution to avoid starling the flight crew or the passengers of the intercepted aircraft, keeping constantly in mind the fact that manoeuvres considered normal to an intercepting aircraft may be considered hazardous to passengers and crews of civil aircraft. Any other participating aircraft must continue to stay well clear of the intercepted aircraf. Upon completion of identification, the intercepting aircraft must withdraw from the vicinity of the intercepted aircraft as outlined in Phase III.

Fase III

La aeronave interceptora principal, o la única aeronave interceptora, deberá cambiar de dirección lentamente desde la aeronave interceptada, ejecutando un picado poco pronunciado. Toda otra aeronave participante deberá permanecer bien apartada de la aeronave interceptada y reunirse con la aeronave interceptora principal.

Phase III

The element leader, or the single intercepting aircraft, must break gently away from the intercepted aircraft in a shallow dive. Any other participating aircraft must stay well clear of the intercepted aircraft and rejoin their leader.



Maniobras para la identificación visual
Manoeuvres for visual identification

3 Maniobras para guía de la navegación

3.1 Si después de las maniobras de identificación de las Fases I y II anteriores, se considera necesario intervenir en la navegación de la aeronave interceptada, la aeronave interceptora principal, o la única aeronave interceptora, deberá normalmente situarse a la izquierda (a babor), ligeramente por encima y por delante de la aeronave interceptada, para permitir que el piloto al mando de esta última vea las señales visuales dadas.

3.1.1 Es indispensable que el piloto al mando de la aeronave interceptora esté seguro de que el piloto al mando de la otra aeronave se ha dado cuenta de que está siendo interceptada y ha reconocido las señales enviadas. Si, después de reiterados intentos de atraer la atención del piloto al mando de la aeronave interceptada utilizando la señal de la Serie 1, los esfuerzos resultan infructuosos, pueden utilizarse para este fin otros métodos de señalización, incluso como último recurso el efecto visual del posquemador a reserva de que no se plantee una situación peligrosa para la aeronave interceptada.

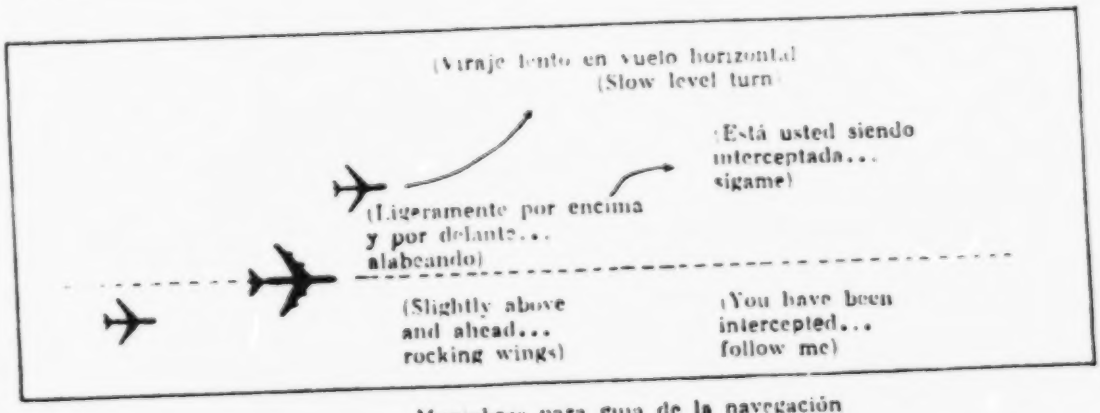
3.1.2 Se admite que ocasionalmente las condiciones meteorológicas o topográficas pueden obligar a la aeronave interceptora principal, o a la única aeronave interceptora, a colocarse a la derecha (a estribor), ligeramente por encima y por delante de la aeronave interceptada. En esos casos, el piloto al mando de la aeronave interceptora debe poner mucho cuidado en que el piloto al mando de la aeronave interceptada la tenga a la vista en todo momento.

3 Manoeuvres for navigational guidance

3.1 If, following the identification manoeuvres in Phase I and Phase II above, it is considered necessary to intervene in the navigation of the intercepted aircraft the element leader, or the single intercepting aircraft, should normally take up a position on the left (port) side, slightly above and ahead of the intercepted aircraft, to enable the pilot-in-command of the latter aircraft to see the visual signals given.

3.1.1 It is indispensable that the pilot-in-command of the intercepting aircraft be satisfeid that the pilot-in-command of the intercepted aircraft is aware of the interception and acknowledges the signals given. If repeated attempts to attract the attention of the pilot-in-command of the intercepted aircraft by use of the Series 1 signal, are unsuccessful, other methods of signallnig may be used for this purpose, including as a last resort the visual effect of the reheat/afterburner, provided that no hazard is created for the intercepted aircraft.

3.1.2 It is recognized that meteorological conditions or terrain may occasionally make it necessary for the element leader, or the single intercepting aircraft, to take up a position on the right (starboard) side, slightly above and ahead of the intercepted aircraft. In such case, the pilot-in-command of the intercepting aircraft must take particular care that the intercepting aircraft is clearly visible at all times to the pilot-in-commandi of the intercepted aircraft.


(Viraje lento en vuelo horizontal
(Slow level turn)
(Está usted siendo interceptada... sígame)
(Ligeramente por encima y por delante... alabeando)
(Slightly above and ahead... rocking wings)
(You have been intercepted... follow me)

Maniobras para guía de la navegación
Manoeuvres for navigational guidance

4 Guiado de una aeronave interceptada

4.1 Deberá proporcionarse por radiotelefonía a la aeronave interceptada la guía de navegación y la información correspondiente, siempre que pueda establecerse contacto por radio.

4.2 Cuando se proporcione guía de navegación a una aeronave interceptada, debe procurarse que la visibilidad no sea inferior a la correspondiente a condiciones meteorológicas de vuelo visual y que las maniobras exigidas a dicha aeronave no constituyan peligros que se sumen a los ya existentes en caso de que haya disminuido su rendimiento operacional.

4.3 En el caso excepcional en que se exija a una aeronave interceptada que aterrice en el territorio nacional, debe cuidarse de que:

a) el aeródromo designado sea adecuado para el aterrizaje sin peligro del tipo de aeronave de que se trate, especialmente si el aeródromo no se utiliza normalmente para las operaciones de transporte aéreo civil;

b) el terreno que le rodee sea adecuado para las maniobras de circuito, aproximación y aproximación frustrada;

c) la aeronave interceptada tenga suficiente combustible para llegar al aeródromo;

d) si la aeronave interceptada es una aeronave de transporte civil, el aeródromo tenga una pista cuya longitud sea equivalente por lo menos a 2 500 m al nivel medio del mar y cuya resistencia sea suficiente para soportar la aeronave; y

e) siempre que sea posible, el aeródromo designado sea uno de los descritos detalladamente en la AIP-CUBA.

4.4 Cuando se exija a una aeronave civil que aterrice en un aeródromo que no le sea familiar, se le otorgará el tiempo suficiente de modo que se prepare para el aterrizaje, teniendo presente que el piloto al mando de la aeronave civil es el único que puede juzgar la seguridad de la operación de aterrizaje en relación con la longitud de la pista y la masa de la aeronave en ese momento.

4.5 Se proporcionará por radiotelefonía a la aeronave interceptada toda la información necesaria para facilitar una aproximación y aterrizaje seguros.

4 Guidance of an intercepted aircraft

4.1 Navigational guidance and related information must be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established.

4.2 When navigational guidance is given to an intercepted aircraft, care must be taken that the aircraft is not led into conditions where the visibility may be reduced below that required to maintain flight in visual meteorological conditions and that the manoeuvres demanded of the intercepted aircraft do not add to already existing hazards in the event that the operating efficiency of the aircraft is impaired.

4.3 In the exceptional case where an intercepted civil aircraft is required to land in the national territory, care must also be taken that:

a) the designated aerodrome is suitable for the safe landing of the aircraft type concerned, especially if the aerodrome is not normally used for civil air transport operations;

b) the surrounding terrain is suitable for circling, approach and missed approach manoeuvres;

c) the intercepted aircraft has sufficient fuel remaining to reach the aerodrome;

d) if the intercepted aircraft is a civil transport aircraft, the designated aerodrome has a runway with a length equivalent to at least 2 500 m at mean sea level and a bearing strength sufficient to support the aircraft; and

e) whenever possible, the designated aerodrome is one that is described in detail in the AIP-CUBA.

4.4 When requiring a civil aircraft to land at an unfamiliar aerodrome, it will be allowed sufficient time it to prepare for a landing, bearing in mind that only the pilot-in-command of the civil aircraft can judge the safety of the landing operation in relation to runway length and aircraft mass at the time.

4.5 All information necessary to facilitate a safe approach and landing will be given to the intercepted aircraft by radiotelephony.

5 Medidas que ha de adoptar la aeronave interceptada

5.1 Una aeronave que sea interceptada por otra aeronave:

a) Seguirá inmediatamente las instrucciones dadas por la aeronave interceptora, interpretando y respondiendo a las señales visuales que figuran en 6.1.1 y 6.1.2;

b) lo notificará inmediatamente, si es posible, a la dependencia de los servicios de tránsito aéreo apropiada;

c) tratará inmediatamente de comunicarse por radio con la aeronave interceptora o con la dependencia de control de interceptación apropiada, efectuando una llamada general en la frecuencia de emergencia de 121.5 MHZ, indicando la identidad de la aeronave interceptada y la índole del vuelo y, si no se ha establecido contacto y es posible, repitiendo esta llamada en la frecuencia de emergencia de 243 MHZ;

d) si está equipada con respondedor SSR, seleccionará inmediatamente el Código 7700, en Modo A, a no ser que reciba otras instrucciones de la dependencia de los servicios de tránsito aéreo apropiada.

5.2 Si alguna instrucción recibida por radio de cualquier fuente estuviera en conflicto con las instrucciones dadas por la aeronave interceptora mediante señales visuales, la aeronave interceptada requerirá aclaración inmediata mientras continúa cumpliendo con las instrucciones visuales dadas por la aeronave interceptora.

5.3 Si alguna instrucción recibida por radio de cualquier fuente estuviera en conflicto con las instrucciones dadas por radio por la aeronave interceptora, la aeronave interceptada requerirá aclaración inmediata mientras continúa cumpliendo con las instrucciones dadas por radio por la aeronave interceptora.

6 Señales visuales aire-a-aire

Las señales visuales que han de utilizar la aeronave interceptora y la interceptada, son las establecidas en el 6.1.1 y 6.1.2. Es esencial que la aeronave interceptora y la aeronave interceptada apliquen estrictamente estas señales e interpreten correctamente las señales dadas por la otra aeronave, y que la aeronave interceptora ponga especial atención a cualquier señal dada por la aeronave interceptada para indicar que se encuentra en situación de peligro o emergencia.

5 Action by intercepted aircraft

5.1 An aircraft which is intercepted by another aircraft shall immediately:

a) follow the instructions given by the intercepting aircraft, interpreting and responding to the visual signals listed on 6.1.1 and 6.1.2;

b) notify, if possible, the appropriate air traffic services unit;

c) attempt to establish radiocommunication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121,5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;

d) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit.

5.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

5.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

6 Air-to-air visual signals

The visual signals to be used by intercepting and intercepted aircraft are those set forth in 6.1.1 and 6.1.2. It is essential that intercepting and intercepted aircraft adhere strictly to those signals and interpret correctly the signals given by the other aircraft, and that the intercepting aircraft pay particular attention to any signals given by the intercepted aircraft to indicate that it is in a state of distress or urgency.

6.1 SEÑALES QUE SE HAN DE UTILIZAR EN CASO DE INTERCEPTACION

6.1.1 Señales iniciadas por la aeronave interceptora y respuesta de la aeronave interceptada

Serie	Señales de la aeronave INTERCEPTORA	Significado	Respuesta de la aeronave INTERCEPTADA	Significado
1	DIA o NOCHE—Alabear la aeronave y encender y apagar las luces de navegación a intervalos irregulares y luces de aterrizaje en el caso de un helicóptero, desde una posición ligeramente por encima y por delante y, normalmente, a la izquierda de la aeronave interceptada (o a la derecha si la aeronave interceptada es un helicóptero) y, después de recibir respuesta, efectuar un viraje horizontal lento, normalmente a la izquierda, (o a la derecha en el caso de un helicóptero), hacia el rumbo deseado. **Nota 1**—Las condiciones meteorológicas o del terreno pueden obligar a la aeronave interceptora a invertir las posiciones y el sentido del viraje citados anteriormente en la Serie 1. **Nota 2**—Si la aeronave interceptada no puede mantener la velocidad de la aeronave interceptora se prevé que esta última efectúe una serie de circuitos de hipódromo y alabee la aeronave cada vez que pase a la aeronave interceptada.	Usted ha sido interceptado. Sígame.	DIA o NOCHE—Alabear la aeronave, encender y apagar las luces de navegación a intervalos irregulares y seguir a la aeronave interceptora.	Comprendido, lo cumpliré.
2	DIA o NOCHE—Alejarse bruscamente de la aeronave interceptada, haciendo un viraje ascendente de 90° o más, sin cruzar la línea de vuelo de la aeronave interceptada.	Prosiga.	DIA o NOCHE—Alabear la aeronave.	Comprendido, lo cumpliré.
3	DIA o NOCHE—Desplegar el tren de aterrizaje (si es replegable), llevando continuamente encendidos los faros de aterrizaje y sobrevolar la pista en servicio o, si la aeronave interceptada es un helicóptero, sobrevolar la zona de aterrizaje de helicópteros. En el caso de helicópteros, el helicóptero interceptor hace una aproximación para el aterrizaje, y permanece en vuelo estacionario cerca de la zona de aterrizaje.	Aterrice en este aeródromo.	DIA o NOCHE—Desplegar el tren de aterrizaje (si es replegable), llevando continuamente encendidos los faros de aterrizaje, seguir a la aeronave interceptora y, si después de sobrevolar la pista en servicio o la zona de aterrizaje del helicóptero se considera que se puede aterrizar sin peligro, proceder al aterrizaje.	Comprendido, lo cumpliré.

6.1.2 Señales iniciadas por la aeronave interceptada y respuesta de la aeronave interceptora

Serie	Señales de la aeronave INTERCEPTADA	Significado	Respuesta de la aeronave INTERCEPTORA	Significado
4	DIA o NOCHE—Replegar el tren de aterrizaje (si es replegable) y encender y apagar los faros de aterrizaje sobrevolando la pista en servicio o la zona de aterrizaje de helicópteros a una altura de más de 300 m (1000 ft) pero sin exceder de 600 m (2000 ft) (en el caso de un helicóptero, a una altura de más de 50 m (170 ft) pero sin exceder de 100 m (330 ft) sobre el nivel del aeródromo), y continuar volando en circuito sobre la pista en servicio o la zona de aterrizaje de helicópteros. Si no está en condiciones de encender y apagar los faros de aterrizaje, encienda y apague cualesquiera otras luces disponibles.	El aeródromo que usted ha designado es inaceptable.	DIA o NOCHE—Si se desea que la aeronave interceptada siga a la aeronave interceptora hasta un aeródromo de alternativa, la aeronave interceptora repetirá el tren de aterrizaje (de ser replegable) y utilizará las señales de la Serie 1 prescritas para las aeronaves interceptoras.	Comprendido, sígame.
			Si se decide dejar en libertad a la aeronave interceptada, la aeronave interceptora utilizará las señales de la Serie 2, prescritas para las aeronaves interceptoras.	Comprendido, prosiga.
5	DIA o NOCHE—Encender y apagar repetidamente todas las luces disponibles a intervalos regulares, pero de manera que se distingan las luces de destellos.	Imposible cumplir.	DIA o NOCHE—Utilice las señales de la Serie 2, prescritas para las aeronaves interceptoras.	Comprendido.
6	DIA o NOCHE—Encender y apagar todas [illegible]	En peligro.	DIA o NOCHE—Utilice las señales de la Serie 2, prescritas para las aeronaves interceptoras.	Comprendido.

6.1 SIGNALS FOR USE IN THE EVENT OF INTERCEPTION

6.1.1 Signals initiated by intercepting aircraft and responses by intercepted aircraft

Series	INTERCEPTING Aircraft Signals	Meaning	INTERCEPTED Aircraft Responds	Meaning
1	DAY or NIGHT—Rocking aircraft and flashing navigation lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left, (or to the right in the case of a helicopter) on the desired heading. Note 1.—Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1. Note 2.—If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock the aircraft each time it passes the intercepted aircraft.	You have been intercepted. Follow me.	DAY or NIGHT—Rocking aircraft, flashing navigational lights at irregular intervals and following.	Understood, will comply.
2	DAY or NIGHT—An abrupt break-away manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	DAY or NIGHT—Rocking the aircraft.	Understood, will comply.
3	DAY or NIGHT—Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to the hover near to the landing area.	Land at this aerodrome.	DAY or NIGHT—Lowering landing gear, (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.	Understood, will comply.

6.1.2 Signals initiated by intercepted aircraft and responses by intercepting aircraft

Series	INTERCEPTED Aircraft Signals	Meaning	INTERCEPTING Aircraft Responds	Meaning
4	DAY or NIGHT—Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1 000 ft) but not exceeding 600 m (2 000 ft) [in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft)] above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT—If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses the Series 1 signals prescribed for intercepting aircraft.	Understood, follow me.
			If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, you may proceed.
5	DAY or NIGHT—Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT—Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6	DAY or NIGHT—Irregular flashing of all available lights.	In distress.	DAY or NIGHT—Use Series 2 signals prescribed for intercepting aircraft.	Understood.

7 Radiocomunicación entre la dependencia de control de intercepción o la aeronave interceptora y la aeronave interceptada

7.1 Cuando se realiza una interceptación, la dependencia de control de interceptación y la aeronave interceptora, deberán:

a) en primer lugar, tratar de establecer comunicación en ambos sentidos con la aeronave interceptada en un idioma común, en la frecuencia de emergencia 121,5 MHz, utilizando los distintivos de llamada "CONTROL DE INTERCEPTACION", "INTERCEPTOR (distintivo de llamada)" y "AERONAVE INTERTADA", respectivamente; y

b) si esto no diera resultado, tratar de establecer comunicación en ambos sentidos con la aeronave interceptada en cualquier otra frecuencia, o frecuencias, que pudiera haber prescrito la autoridad ATS apropiada, o de establecer contacto por mediación de la dependencia ATS apropiada.

7.2 Si durante la interceptación se ha establecido contacto por radio, pero no fuera posible comunicarse en un idioma común, se intentará proporcionar las instrucciones, acusar recibo de las instrucciones y transmitir toda otra información indispensable mediante las frases y pronunciaciones que figuran en 7.3, transmitiendo dos veces cada frase.

7 Radiocommunication between the intercept control unit or the intercepting aircraft and the intercepted aircraft

7.1 When an interception is being made, the intercept control unit and the intercepting aircraft must:

a) first attempt to establish two-way communication with the intercepted aircraft in a common language on the emergency frequency 121.5 MHz, using the call signs "INTERCEPT CONTROL", "INTERCEPTOR (call sign)" and "INTERCEPTED AIRCRAFT" respectively; and

b) failing this, attempt to establish two-way communication with the intercepted aircraft on such other frequency or frequencies as may have been prescribed by the appropriate ATS authority, or to establish contact through the appropriate ATS unit(s).

7.2 If radio contact has been established during interception but communication in a common language is not possible, attempts must be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in 7.3 and transmitting each phrase twice.

7.3 Frases para uso de aeronaves interceptoras e interceptadas.
Phrases for use by intercepting and intercepted aircraft.

Frases para uso de aeronaves INTERCEPTORAS			Frases para uso de aeronaves INTERCEPTADAS		
Frase	Pronunciación[1]	Significado	Frase	Pronunciación[1]	Significado
CALL SIGN	KOL-SAIN	¿Cuál es su distintivo de llamada?	CALL SIGN (distintivo de llamada)[2]	KOL SAIN (distintivo de llamada)	Mi distintivo de llamada es (distintivo de llamada)
FOLLOW	FOLOU	Sígame	WILCO	UIL-CO	Cumpliré instrucciones
DESCEND	DISSEND	Descienda para aterrizar	CAN NOT	CAN-NOT	Imposible cumplir
YOU LAND	YU LAND	Aterrice en este aeródromo	REPEAT	RI-PIT	Repita instrucciones
PROCEED	PROSIID	Puede proseguir	AM LOST	AM LOST	Posición desconocida
			MAYDAY	MEIDEI	Me encuentro en peligro
			HIJACK[3]	JAI CHAK	He sido objeto de apoderamiento ilícito
			LAND (lugar)	LAND (lugar)	Permiso para aterrizar en (lugar)
			DESCEND	DISSEND	Permiso para descender

1 En la segunda columna se subrayan las sílabas que han de acentuarse.

2 El distintivo de llamada que deberá darse es el que se utiliza en las comunicaciones radiotelefónicas con los servicios de tránsito aéreo y corresponde a la identificación de la aeronave consignada en el plan de vuelo.

3. Según las circunstancias, no siempre será posible o conveniente utilizar el término "HIJACK".

Phrases for use by INTERCEPTING aircraft			Phrases for use by INTERCEPTED aircraft		
Phrase	Pronunciation	Meaning	Phrase	Pronunciation[1]	Meaning
CALL SIGN	KOL SAIN	What is your call sign	CALL SIGN (call sign)	KOL SAIN (call sign)	My call sign is (call sign)
FOLLOW	FOL LO	Follow me	WILCO	UIL KO	Understood Will comply
DESCEND	DIS-SEND	Descend for landing	[illegible]	[illegible]	Unable to comply
YOU LAND	YOU LAND	Land at this aerodrome	[illegible]	[illegible]	Repeat your instruction
PROCEED	PRO SEED	You may proceed	[illegible]	[illegible]	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK	HI JACK	I have been hijacked
			LAND (place name)	LAND (place name)	I request to land at (place name)
			DESCEND	DIS SEND	I require descent

1. In the second column, syllables to be emphasized are underlined.

2. The call sign required to be given is that used in radiotelephony communications with air traffic services units corresponding to the aircraft identification in the flight plan.

3. Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".

G. LEGAL SUBMISSIONS OF THE AUTHORITIES OF CUBA

1. Relevant provisions of the Charter of the United Nations

According to the authorities of Cuba, two provisions of the United Nations Charter, reproduced below, are relevant to a consideration of the incident in its entirety. The remarks accompanying each provision were submitted by the authorities of Cuba.

Charter of the United Nations

"a) *Chapter I, Article 1*

'The purposes of the United Nations are:

To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace.'

Remarks.— The Charter of the United Nations incorporates and reassures the 'sovereign equality' of all its members. This guarantee of 'sovereign equality' includes the distinct principle that 'territorial integrity and political independence of any State are inviolable'.

In this context, the fundamental rights of Cuba under the Charter of the United Nations, and under international law in general, have been threatened by the flights carried out by the organization 'Brothers to the Rescue', and Cuba had the right and, in fact, the responsibility to act in response to these threats. By the same token, the United States had the solemn obligation, under the Charter of the United Nations and under international law as well, to stop these flights, which constitute a defiance of the sovereignty of a State and endanger the security of Cuban territory and of the civil aviation in general."

"b) *Chapter I, Article 2, subparagraph 1):*

'The organization is based on the principle of the sovereign equality of all its members.'

Remarks.— The Charter of the United Nations explicitly states that the acceptance of the principle of 'sovereign equality' of States implies a solemn obligation to 'respect the identity of any State, as well as its territorial integrity and political independence'.

In accordance with the Charter and international law, any State has the right to repel and put an end to, even with the use of armed force, any deliberate challenge to its sovereignty over its airspace. One cannot mistake for a simple intrusion what

actually constituted an intentional act of provocation, taking into account that 'Brothers to the Rescue' is an organization which has a political goal."

2. **Relevant provisions of the Chicago Convention and Annex 2 to the Chicago Convention**

According to the authorities of Cuba, the following provisions of the Chicago Convention are relevant to a consideration of the incident in its entirety: Preambular paragraph 1 and Articles 1, 2, 3(a), 4, 5, 9(a), 11 and 12. Reference was also made to Standards 3.1.2, 3.1.4, 3.1.10, 3.3.4 and 3.4 and 4.6(a) of Annex 2 to the Chicago Convention. The remarks accompanying each provision of the Convention and each Standard of the Annex were submitted by the authorities of Cuba. The above-mentioned provisions of the Chicago Convention are not reproduced; only the accompanying remarks are provided below:

Preambular paragraph 1

"Remarks.- We can aver, in view of the actions that the aircraft belonging to the 'Brothers to the Rescue' organization were carrying out, that they could never be considered or regarded as actions inherent to civil aviation, since such this organization's actions pose a direct threat to general security."

Article 1

"Remarks.- It goes without question, considering the above-mentioned legal precept, that the Cuban State will take all steps deemed necessary to exercise its legitimate right and obligation to defend and preserve its territory against any action which might damage its sovereignty and security."

Article 2

"Remarks.- The airspace, as constituent part of a State territory, is inviolable, and for this reason the principle of inviolability of a state territory is in force in international law.

The aircraft of the 'Brothers to the Rescue' organization, in a period of time of a little over three years, have violated Cuban airspace and moreover, in the last 20 months these aircraft have carried out incursions over heavily populated areas of Havana."

Article 3 a)

"Remarks.- The use or employment of the aircraft in question is the determining factor, and not other elements by themselves, such as registration and distinguishing marks of the aircraft, ownership, type of operator, etc. (From a Study of the ICAO Secretariat on 'civil and State aircraft').

Regarding the specific case of the provocations and actions carried out by the aircraft of the 'Brothers to the Rescue' organization, said aircraft have been used for purposes which are incompatible with the norms and rules accepted and recommended by the above-mentioned Convention, and for purposes which intentionally violate these norms and rules. Actions of this kind are not in accordance with the purposes for which civil aviation was conceived and created.

Therefore, the aircraft used by the 'Brothers to the Rescue' organization cannot be considered as civil aircraft, taking into account the repeated and intentional use of them with (sic) for subversive purposes against the sovereignty and integrity of the territory of Cuba."

Article 4

"Remarks.- An aircraft with a civil register, when used in an improper, premeditated and illegal fashion and with purposes which are incompatible with the Chicago Convention, becomes disqualified as a civil aircraft, due to its actual use and purpose, and therefore, falls out of the jurisdiction of the above-mentioned Convention.

The 'Brothers to the Rescue' aircraft, have been operating within the Havana FIR and have entered Cuban airspace several items without prior permission, with purposes which are evidently illegal and incompatible with the letter and the spirit of the Chicago Convention, and have carried out actions which are not inherent to the purposes civil aviation has been conceived for and have nothing to do with the services that it usually provides.

To prove that these actions are incompatible with the purposes of the Chicago Convention we note the following facts:

— 'Brothers to the Rescue' aircraft have violated Cuban airspace with subversive purposes

— They have overflown at a very low altitude, dropping flyers inciting people to carry out actions of civil disobedience and against Cuban constitutional order.

— They have flown over heavily populated areas of Havana without prior permission.

— They have carried out incursions within Cuban airspace without delivering the corresponding Flight Plans, etc."

Article 5

"Remarks.- In all cases, the flights carried out by 'Brothers to the Rescue' organization, in overt transgression of Cuban airspace, have violated the provisions of said article, since they did not inform of their Flight Plans, their airways were unknown and they flew without the relevant permission. Thus their operations have jeopardized not just the territorial security, but also the security of many people and aircraft, whose safety is a fundamental obligation of the International Civil Aviation Organization."

Article 9(a)

"Remarks.- The organization 'Brothers to the Rescue' has violated the provisions of this article, particularly on July 13, 1995, when they penetrated prohibited area MU-P1, overflying the city of Havana at a very low altitude, dropping flyers and acting in a dangerous and careless manner."

Article 11

"Remarks.- 'Brothers to the Rescue', obviously, has not complied with what is provided for in this article, since its activities have denoted total disdain for the existing rules in the territory of Cuba. Furthermore, the leader of that organization, during a statement on United States television last year, after the 13 July entry, when asked by the journalist whether he had breached any United States regulations, answered, 'American none,' and about Cuba's he said, 'I don't care about Cuba's.'"

Article 12

"Remarks.- Every violation of Cuban airspace, as well as the illegal activities and activities incompatible with the functions for which civil aviation has been created, were timely informed to the United States authorities—this is recorded in the documentary evidence of the dispatched Notes—but, in addition, there is evidence that the United States Government had learned about some of these violations in advance and informed the Cuban authorities. Note 557, of 18 October 1995, additionally indicated that this organization was planning to 'transmit television and short-wave radio signals for a period of approximately half an hour.' The same Note pointed out that 'United States officials have warned the flotilla organizations about the prohibitions contained in international and United States law regarding non-authorized transmissions from U.S.-registered vessels or aircraft, and have urged them not to make illegal transmissions.'

But the United States Government has shown in practice that it did not demand that this organization observe Cuban State regulations or, even its own regulations or, even worse, the regulations of the Chicago Convention. It has allowed this organization's operations and has not taken effective action against the people operating in it, as provided for by its own laws, e.g. 49 U.S.C. 44709(b)(1)(a); 49 U.S.C. 44709(c); 49 U.S.C. 46304(b) and 14 CFR 13.17, *inter alia*."

Annex 2 to the Chicago Convention, Standard 3.1.10:

"3.1.10 Prohibited areas and restricted areas

Aircraft shall not be flown in a prohibited area, or in a restricted area, the particulars of which have been duly published, except in accordance with the conditions of the restrictions or by permission of the State over whose territory the areas are established."

"Remarks.- 'Brothers to the Rescue' aircraft have repeatedly entered Cuba's prohibited area MUP-1 (the city of Havana), which proves that these acts constitute deliberate provocations."

Annex 2 to the Chicago Convention, Standard 3.1.2, 3.1.4 and 4.6(a):

"3.1.2 Minimum heights

Except when necessary for take-off or landing, or except by permission from the appropriate authority, aircraft shall not be flown over the congested areas of cities, towns or settlements or over an open-air assembly of persons, unless at such a height as will permit, in the event of an emergency arising, a landing to be made without undue hazard to persons or property on the surface.

Note — See 4.6 for minimum heights for VFR flights and 5.1.2 for minimum levels for IFR flights.

3.1.4 Dropping or spraying

Nothing shall be dropped or sprayed from an aircraft in flight except under conditions prescribed by the appropriate authority and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

4.6 Except when necessary for take-off or landing, or except by permission from the appropriate authority, a VFR flight shall not be flown:

a) over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300 m (1 000 ft) above the highest obstacle within a radius of 600 m from the aircraft;

b) elsewhere than as specified in 4.6 a), at a height less than 150 m (500 ft) above the ground or water.

Note — See also 3.1.2"

"Remarks.— 'Brothers to the Rescue' aircraft have repeatedly and deliberately breached this norm in our airspace."

Annex 2 to the Chicago Convention, Standard 3.3.4

"3.3.4 Changes to a flight plan

Subject to the provisions of 3.6.2.2, all changes to a flight plan submitted for an IFR flight, or a VFR flight operated as a controlled flight, shall be reported as soon as practicable to the appropriate air traffic services unit. For other VFR flights, significant changes to a flight plan shall be reported as soon as practicable to the appropriate air traffic services unit.

Note 1.— Information submitted prior to departure regarding fuel endurance or total number of persons carried on board, if incorrect at time of departure, constitutes a significant change to the flight plan and as such must be reported."

"Remarks.- 'Brothers to the Rescue' aircraft deviated from the prescribed routes described in the flight plan and entered Cuban airspace."

Annex 2 to the Chicago Convention, Standard 3.4:

"3.4 Signals

3.4.1 Upon observing or receiving any of the signals given in Appendix 1, aircraft shall take such action as may be required by the interpretation of the signal given in that Appendix.

3.4.2 The signals of Appendix 1 shall, when used, have the meaning indicated therein. They shall be used only for the purpose indicated and no other signals likely to be confused with them shall be used."

"Remarks.- The intercepted aircraft did not comply with or obey the directions given to it by the intercepting aircraft; thus, the order to terminate the flight was issued."

3. **Relevant Cuban laws and regulations**

According to the authorities of Cuba, a number of laws and regulations of Cuba are relevant to a consideration of the incident in its entirety, as reproduced below. The remarks accompanying each provision were submitted by the authorities of Cuba.

"1) Constitution of the Republic

Article 11, item a) states:

'The State exercises its sovereignty:

a) over the entire national territory, which consists of the island of Cuba, the Isle of Youth and all other adjacent islands and keys; internal waters; the territorial waters in the extension prescribed by law; and the airspace corresponding to the above.'

Remarks.- It is unquestionable that the Cuban State should take every action it deems justified for the sake of its legitimate right and duty to defend and protect its territory from any action that might be detrimental to its sovereignty and security."

"2) Act 1218 'Rules to overfly our national territory'

Article 2 of this Law states:

'The airspace over the territory of the Republic of Cuba and its territorial waters is subject to the sovereignty of the Cuban State.'

Remarks.- The organization 'Brothers to the Rescue' deliberately challenged Cuba's national sovereignty over its airspace, aware that the territory of a State is inviolable and the sovereign exercise of power by a State is protected by Public International Law."

"Article 3 of this Law states:

'Foreign civil aircraft will be able to carry out overflights and stopovers for non-commercial purposes in the national territory in accordance with any Treatment (sic) or Agreement which the Republic of Cuba may have signed, and using the procedures described in Chapter III hereof.'

Remarks.- The activities carried out by 'Brothers to the Rescue' aircraft constitute violations of the International Civil Aviation standards. This shows in the very intent to not fly according to what this article provides for, and enter our airspace altering even the flight plans they had been authorized for."

"Article 14 of this Law states:

'Foreign civil aircraft, as described in Article 3, may overfly and make stopovers for non-commercial purposes only if they receive a prior Certificate or Notification. Certificates are permanently valid while the conditions under which they were issued remain in force, and they are issued only to regular international air services once the procedures pointed out in this Chapter are done. Notifications are issued specifically for a given number of non-regular flights, as well as for regular flights in case that the issue of a Certificate is still pending.'

Remarks.- The organization 'Brothers to the Rescue' far from observing the requirements of this article, with their deliberate and hostile actions have jeopardized civil aviation security at large, several times flying in activated danger-zones, at low altitude and even in highly populated areas of our territory, breaching the solicited flight plans."

"Article 16 of this Law states:

'The operator of an overflight providing non-regular civil air transportation services should apply for a Notification by sending a cablegram addressed to AEROCIVIL-HABANA, at least 48 hours prior to the scheduled take-off time, specifying:

a) Name, nationality and official address of the operator.

b) Type of aircraft and registration mark.

c) Name of the pilot-in-command.

d) Place of origin and destination.

e) Air corridor which will be used according to the Flight Plan.

f) Date of the overflight.

g) If aircraft is transporting passengers, cargo or mail.

This information shall be sent with paid reply. Reply from AEROCIVIL means that the notification was received and the decision made shall be informed to the applicant.'

Remarks.- The organization 'Brothers to the Rescue' never requested the relevant notification for a flight, in pursuance of this article, obviously demonstrating with their deliberate action that its purpose was not a regular or non-regular air service."

"In its Sole General Provision the law states

'... Any foreign aircraft entering the airspace or territorial waters of the Republic of Cuba without having been granted a Certificate, Notification or Special Permission, shall face, at its own risk, the consequences of the violation incurred.'

Remarks.- The 'Brothers to the Rescue' aircraft have been entering our airspace for absolutely illegal and hostile purposes and without the relevant permit from the Cuban authorities, thus deliberately and calculatedly defying the country's sovereignty.

In practice, there is no international law that prohibits the use of weapons against aircraft of this nature. International law does not provide the groundwork for an unequivocal prohibition of the use of weapons against 'Civil Aviation' which, as can be seen, does not envisage the 'Brothers to the Rescue' aviation and does not ban the use of weapons under the circumstances of the 24 February 1996 incident."

"Law 1318 - 'Organization, planning and control of flights over the territory and the Flight Information Region of the Republic of Cuba'

Article 5 of this Law states:

'The Ministry of the Revolutionary Armed Forces has the utmost responsibility for the security and defense of the airspace of the Republic of Cuba.'

Remarks.- The actions conducted by the organization 'Brothers to the Rescue' in the airspace of the Republic of Cuba and the area controlled by its air traffic were deliberately carried out without the relevant authorization of the Revolutionary Armed Force Ministry. Such actions jeopardize the Republic of Cuba's airspace safety and defense."

"Article 11 of this Law states:

'Applications for carrying out flights concerning individuals, organizations, and national or international entities, shall be made through the units of the Institute of Civil Aeronautics of Cuba, within the term and according to the methodology established by the Provisions of this Law.'

Remarks.- The organization 'Brothers to the Rescue', in each and every one of its entries has acted counter to what is provided for in this article."

"Article 29 of this Law states:

'The crew, owner or operator—whichever the case—of an aircraft which violates the airspace of the Republic of Cuba or which, without the relevant permission, leaves the inner limit of the Antiaircraft Defense Identification Zone (ZIDA) shall be forced to land at the closest or most convenient aerodrome. If the aircraft does not obey the order, said crew or owner or operator—whichever the case—of the aircraft shall be subject, at his/her own risk, to face the consequences of the violation incurred.'

Remarks.- Despite the actions perpetrated by the organization 'Brothers to the Rescue', not conforming to the international standards of civil aviation, the Government of the Republic of Cuba has several times forwarded notes to the United States Government demanding that violations of our airspace cease.

On 24 February 1996, after 'Brothers to the Rescue' aircraft once again entered our airspace and territorial waters, the Cuban Air Force intercepting jet fighters made the preventive warning manoeuvre and, no response being obtained, these received the order to terminate the aircraft's flight.

In fact, as Cuba's fundamental rights concerning sovereignty were being threatened by these flights, the Government of Cuba had the utmost right and responsibility to act consistently."

"Decree No. 1

Its Article 1 states:

'The territorial sea of the Republic of Cuba is twelve nautical miles wide, measured from the baseline herein determined and whose outer limit is made up of a line in each of whose points is at an equal distance of twelve nautical miles from the point closest to the baseline.'

Remarks.- The United States Government has permitted and is also responsible for the actions undertaken by the organization 'Brothers to the Rescue', which participates in actions constituting an obvious violation of the principle of sovereignty and territoriality.

The territorial domain comprises ground, maritime and air spaces and, as far as we are concerned, we must express that a State's territory is inviolable because States exercise in them their sovereignty, competence and territorial jurisdiction."

"Article 4 of this Decree states:

'The sovereignty that the Cuban socialist State exercises over the entire national territory, comprising the Island of Cuba, the Isle of Pines, the other adjacent islands and keys, the inland waters, the territorial sea, the airspace over them, and the ground space subsoil, stretches down to the seabed and the subsoil of the territorial waters formed by the inland waters and the territorial sea, together with all their natural resources—living or dead—to be found in all the aforementioned spaces subject to the Cuban State sovereignty.'

Remarks.- As the airspace is an integral part of the State's territory, it is inviolable and the Cuban State—in the face of the danger underlying the actions carried out by the organization

'Brothers to the Rescue'—has the right to defend its independence and its territorial supremacy; thus, it is protected by the Public International Law's principle of inviolability of the States's territory."

4. **Relevant provisions of United States Law**

According to the authorities of Cuba, the following commentary on provisions of the law of the United States are relevant to a consideration of the incident in its entirety:

"'Illegal actions according to United States regulations'

1. United States Neutrality Act of 1794

a) 'The United States Neutrality Act' of 1794 declares that it is a federal crime to organize or initiate within the territory of the United States any expedition hostile to another country with which the U.S. is at peace.

Not only will punitive expeditions be considered violations of this law but also any action for this purpose such as the recruitment of men, training, collection of money, clothing, provisions and the supply of transportation means and weapons.

An individual or group of persons incur in a violation of the 'Neutrality Act' even if the military or war activity in which they are involved never materializes [or] is carried out.

Violation of the law, has also been understood to include the mere fact of individuals meeting to conspire verbally and without executing the actions previously described, with the ultimate goal or organizing war actions against another country.

According to this law, the President cannot authorize an individual or institutions to violate the law nor can he allow an individual or group of individuals to violate the law, to his knowledge. It is of the competence of the Congress of the United States alone to modify the peace status with another country by declaring war.

During the XIX and XX Centuries, the Government of the United States has enforced the Neutrality Act on countless occasions. The Supreme Court has ruled and interpreted this law when conflicts have arisen between the Government and the Courts. Nevertheless, this Act has been made subordinate to alleged 'strategic and national security interests' and as a result it has been violated the Government of the United States Government itself, every time the executive branch authorizes or prepares covert operations without the approval of Congress.

b) Other regulations of the United States

According to FAA regulations, any aircraft flying within the Air Defense Identified (*sic*) Zone (ADIZ) of the United States, including the airspace of the Florida Straits, must previously present a flight plan to the relevant aeronautical office (14 CFR 99.3, 99.11) (a)). 'No pilot may deviate from the filed DVFR flight plan unless that pilot notifies an appropriate aeronautical facility before deviating'(14 CFR 99.27 (c)).

The regulations also specifically state that no one can fly a civilian aircraft of the United States to Cuba unless the pilot in command has presented a flight plan and a written statement to the Immigration and Naturalization Service with information on the flight plan and the name of every passenger of the aircraft together with a description of its cargo (14 CFR 91.709).

Furthermore, FAA regulations require that the pilot observe the regulations in force in a foreign country related to aircraft flight and manoeuvres (14 CFR 91.703(a)(2)) as well as those regarding the operation of an aircraft in such a manner that it will be neither careless nor negligent (14 CFR 91.13(a)). The fact that Basulto and the 'Brothers to the Rescue' have violated these regulations is made clear in the many diplomatic notes issued by Cuba to the United States, containing detailed information of the many incursions of the pilots within the territorial airspace of Cuba."

"Measures the United States could have adopted against the 'Brothers to the Rescue' organization

...

a) The FAA could have suspended or revoked the license of pilot Basulto if it had decided that the security of the commercial flights, air cargo transportation and the public interest required this action (49 U.S.C. 44709(b)(1)(A). The FAA could have done so without providing Basulto with notice and a hearing if it considered that the situation was an emergency (49 U.S.C. 44709(C)). Obviously, according to the events stated by FAA, there was sufficient information to have considered the situation an emergency long before February 24th.

b) The FAA could have summarily seized 'Brothers to the Rescue's' aircraft (49 U.S.C. 46304(b) and 14 CFR 13.17). Such seizures are permitted for violations of certain United States' laws and regulations relating, *inter alia*, to the safety of commercial flights and qualification of the pilots (see 49 U.S.C. 44701(a)(5) and 44703). At least some of these provisions were violated by Basulto and by 'Brothers to the Rescue'.

c) The FAA could have sought civil penalties of $1,000 against Basulto and Brothers to the Rescue for violating the United States laws and regulations described above (49 U.S.C § 46301 (a)(1)). A separate violation is deemed to

occur for each day that the violation continues, or for each flight involving the violation (49 U.S.C. § 46301 (a)(4)).

d) The FAA could have sought criminal fines against Basulto and Brothers to the Rescue for violating regulations issued by the FAA, (49 U.S.C. § 46316). In addition, if Basulto and Brothers to the Rescue filed flight plans falsely stating their route or destination, the United States could have prosecuted them under a general criminal statue prohibiting the making of a false statement to a government agency:

> Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined under this title or imprisoned no more than five years, or both (18 U.S.C. § 1001)."

- END -